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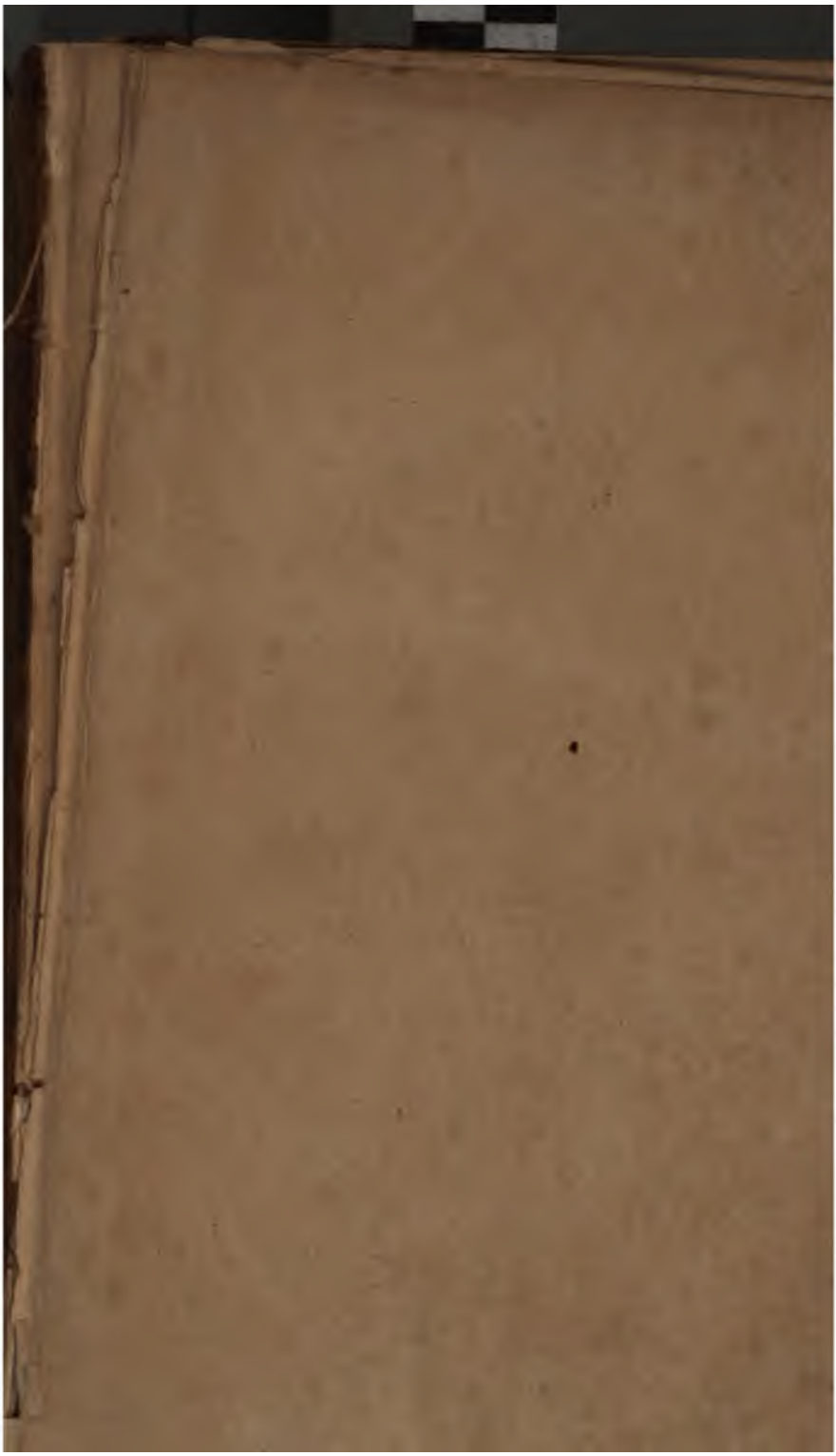

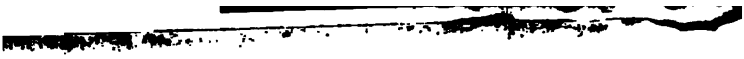

THE

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JOURNAL:

EXHIBITING

A CONCISE VIEW

OF THE

LATEST AND MOST IMPORTANT DISCOVERIES

IN

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THE

EDINBURGH
MEDICAL AND SURGICAL JOURNAL.

1. JANUARY 1818.

PART I.

ORIGINAL COMMUNICATIONS.

I.

An attempt to develope the Fundamental Principles which should guide the Legislature in regulating the Profession of Physic. *

THE policy of regulating, by public ordinances, institutions essential to the well-being of the community, need not be insisted on. It is sanctioned by the unvarying practice of all

* The importance of the subject of this communication, and the justness of the general principles explained in it, are such, that we are induced to depart from our usual reserve, and to recommend it to the most serious attention of the profession. That Medical Reform is much wanted, is admitted on all hands; but the most opposite opinions are entertained with regard to its precise object, and the means by which reformation is to be effected. Even the latest legislative enactments have proceeded upon narrow principles, and their operation, instead of being beneficial, have proved hurtful, especially by increasing the obstacles to a general methodical reform, in which the paltry jarring interests of individuals and corporations, of physicians, surgeons, and apothecaries, should be disregarded and the only rational object of a medical constitution, the providing for the wants and security of the public, should be kept steadily in view. The

ages. The only question then to be considered on any occasion is, how this exercise of authority may be best directed, so as to promote both the public good, and the just interests of the institution to be regulated.

The profession of physic, taken in its most comprehensive sense, as including physic, surgery, midwifery, and pharmacy, is one, the importance of which to the welfare and happiness of mankind, can hardly be overrated.

No system of medical polity can be complete, in which these several powers of the art are not fully recognised, and in which their mutual dependence, and the relationship which they bear to the wants and the wishes of the community, are not duly consulted.

The history of the profession however shows, that a view thus comprehensive, has never yet been made the basis of any regulations for its government,—but that the different departments to which a forced and unnatural division of its offices originally gave rise, being bound by no connecting tie, impelled by no common interest, have severally endeavoured to procure their partial ends, and aggrandize their respective bodies, as time and circumstances permitted.

A brief sketch of the origin and progress of the profession in Modern Europe, and of the condition in which it exists at the present day in the 'United Kingdom,' will afford the best illustration of these statements.

The first establishments in which medicine was taught after the revival of learning, were Ecclesiastical,—and the Monks were the first physicians.

This combination, in which the medical character was adventitious and subordinate, was ill suited to promote the due advancement of the art.

And accordingly we find, that while the anxiety of the priesthood to engross a lucrative occupation, led them to employ every possible means of excluding the laity from a participation in their gains; the Papal power, jealous lest the lay employments of its clergy should interfere with their clerical functions, pro-

---

community requires the assistance of the various, but almost inseparable branches into which the healing art has been divided; and it requires that these should be provided at the cheapest rate, in the most convenient manner, and of the best quality that circumstances will permit. The community also requires to be defended from fraud, imposture, and ignorance.

Salus publica, suprema lex.

EDITOR.

hibited them from practising many branches, both of physic and surgery.

So earnest were the Monks in their endeavours to resist all encroachment, that they even went the length of obtaining, through their interest at the Court of Rome, formal excommunication against all who committed themselves to the care of the Jewish physicians, a useful body of practitioners, who were at that time extending over Europe, and possessed of high reputation.

By such means was the practice of the art confined for a long period to the hands of the priesthood, who nevertheless, as has been shown, were restricted from fully exercising it.

How greatly so incongruous a state of things must have impeded the due advancement both of the science and the profession, it is needless to enforce.

The disadvantages immediately resulting from the restrictions imposed on the Monks, they obviated as much as possible by suitable expedients. Thus, when prohibited by a Papal Bull from leaving their cloisters for the purpose of attending the sick, they gave advice at home to those who consulted them, forming their judgments oftentimes on the reports made by the friends and relatives of the sick, and by inspection of the various excrements submitted to their examination. When manual assistance was required, they sent their servants to officiate, who were also their barbers,—and hence arose a class of practitioners, afterwards sufficiently celebrated throughout Europe,—the Barber-Surgeons.

The history of this period is peculiarly interesting; and it is highly instructive to trace the various struggles which successively took place, more especially in France, between the ecclesiastical and lay practitioners in physic; between the physicians and the regular surgeons of the Parisian College; and between these latter and the barber-surgeons, with whom, however, they were finally obliged to unite. It must suffice, however, in this place, to remark, that throughout the whole period, a uniform tendency is manifested on the part of the public to disregard all collegiate rights and restrictions, and to employ those whom they found most suited to their purposes, namely, the general practitioners, or those who combined the several departments most completely in their own persons.

Remote as were the periods, and distant the scenes now alluded to, they have nevertheless had an influence on the state of medical science and medical practice in these countries, which is sensibly felt even at the present day. They hence acquire an interest, which, as mere matters of curiosity, they would

not be entitled to. It is easy to trace this influence, and demonstrate its effects. How far they have been beneficial or otherwise, we can have little difficulty in determining.

The way in which a division of the profession first took place in modern Europe, has just been stated. It was obviously not such as to impress us with any very strong conviction of the necessity or advantages of such a separation. Monkish cupidity had engrossed the whole of medical practice; Papal policy compelled the relinquishment of those departments which more peculiarly interfered with the clerical functions, or were considered to derogate from the clerical character. Thus surgery became degraded, until the good sense of the French Court, concurring with the demands of society, rescued it from obscurity, and restored it to some degree of rank and consequence, by establishing a college for its use, and giving it a separate and independent constitution.

To reunite it to physic, seems to have been beyond the power of the French Kings,—and, indeed, at that time, not to have been practicable. For the physicians were chiefly ecclesiastics; the university of Paris was under ecclesiastical control; and though lay practitioners did qualify themselves for practice after the bull was published, which restricted the practice of the Monks,—still, being prevented entering the university save by a vow of celibacy, they had hardly an alternative, but were insensibly led on to take orders. Thus medicine and the priesthood became so identified, that a reunion of the former with surgery was, under the Papal restrictions, actually impracticable.

And yet if we consider how extensive the practice of the surgeons must have been in all diseases, as well medical as surgical, we must admit that this division, as it regarded actual practice, was more nominal than real; that it held good only in the relinquishment of surgery by the physicians; but that, to all intents and purposes, the departments still remained united in the persons of the surgeons. Still the division was avowed, and believed to be complete. The surgeons, and their patients, only could know the contrary; and they were both too much interested, and too politic, to disclose the fact.

Such was the state of the profession on the continent of Europe, when an institution for the exclusive advancement of the department of physic became first established in Britain. And the history of its formation suffices to show, that the individual to whose zeal the country was indebted for this truly patriotic design, had the models of the continental schools, and the system of medical polity that prevailed in them, chiefly in view.

It was to the interest which Linacre possessed with Henry VIII. to whom he was chief physician, that the London College of Physicians owes its first formation. Linacre had visited the continental schools to obtain that knowledge which his own country failed to afford; and, on his return, obtained from Henry the charter by which the College of Physicians is incorporated.

Of this body, the general policy seems to have been to ensure a high degree of learning on the part of its members, rather than to supply the public with medical practitioners, proportionate to its necessities.

And the effect has been in a great degree similar to what we have already seen to result from the Papal restrictions imposed on the clerical physicians of the Continent. For, by requiring a high degree of literary qualification from its associates, it necessarily narrowed the institution, and rendered it inadequate to supply the wants of the community; while, by declining all connexion with surgery, it forced the public on calling into existence a class of practitioners, inferior indeed in learning and science, but more useful, as combining in their own persons the qualifications necessary for giving relief in all the varied forms which disease assumes.

These practitioners became in time consolidated into other corporate bodies, as their peculiar education and more particular pursuits directed them. And we have now both a College of Surgeons, and a corporation of Apothecaries, as well as a College of Physicians, in each division of the United Kingdom.

This last subdivision, however, made no change in the actual avocations of the several parties. For, notwithstanding the difference of denomination, both surgeons and apothecaries were in fact general practitioners, and continued to be more or less engaged in the whole business of general practice.

But, though equally engaged in this most necessary department, these latter corporations were very unequally qualified for undertaking its arduous and important duties. The surgeons being necessarily well grounded by their education, in the anatomy and physiology of the human frame, possessed in consequence the foundation, on which experience might rear a valuable superstructure. But the apothecaries, being originally initiated only into the art of compounding and dispensing drugs, according to the prescriptions of the surgeons and physicians, could not, as a body, be deemed qualified for the duties of general practice, in which they were nevertheless called on by the increasing wants of the public, and the very nature of their own occupation, extensively to engage. Individually they might,

and no doubt did, oftentimes possess themselves of the necessary information; but the public could have no sufficient assurance of their general competency, a knowledge of pharmacy only being required by their education.

These varied sources might seem sufficient for supplying the kingdom with medical practitioners; but so great has been the demand created by the rapid increase of wealth, luxury, and population, or so unprepared the corporate bodies, by any enlightened system of polity, by consentaneous exertions, or suitable provisions for meeting the demand, that it has greatly exceeded what all the corporations united have hitherto supplied. The fact is sufficiently proved by the call recently made for a fourth medical incorporation to unite the straggling bands. This call has certainly not been answered; but a disposition still prevails both in the profession to call for legislative enactments, and in the legislature to grant them. Indeed, so unprepared are the legislature themselves for judging the subject, or for subjecting any propositions that may be made to them to the test of sound principles, that any measures plausibly advanced, and confidently recommended, are but too likely to receive a heedless sanction. As an instance, I may adduce the act passed in the session of 1814, for regulating some parts of the profession; an act which made its way through the House nearly *sub silentio*, yet which abounds in such palpable absurdities, and provisions of injurious operation, that it was scarcely promulgated, when measures were entered into for petitioning for its repeal. The disposition of the profession to call for Parliamentary interference, is further manifested by the bill introduced in the session of 1815, on behalf of the London College of Surgeons, calling for further restrictive powers being granted to their body, for confining the practice of surgery to regular hands.

That such measures alone can ever accomplish the ends proposed, is contrary to all experience, and to the soundest maxims of political science. And I trust, that, ere the present inquiry closes, I shall satisfactorily show, that far different arrangements are required towards supplying the public with a sufficiency of competent practitioners, and protecting the just rights of these against irregular encroachment.

From the foregoing cursory, but correct sketch of the origin, progress, and present condition of the profession, we may deduce with tolerable certainty what are the requisites to constitute a well organized profession, and how they should be supplied.

The wants of society require a competent supply of general practitioners.

The interests of the science, and the accommodation of the higher ranks of society, require that there should be also a suitable supply of practitioners in the separate departments of physic and surgery.

In each instance the supply will, with considerable certainty, accommodate itself to the demand, if not prevented by injudicious influences and restrictions.

The principal demand, however, will ever be for general practitioners, who will multiply to any extent required, provided there exist no undue obstacles to their increase, nor any restrictions on the full exercise of their functions.

The objects of judicious legislation then clearly are,—first, to provide for the due qualifications of each species of practitioners, so as to ensure the competency of all to fulfil their respective duties, without insisting on such extraordinary endowments as, by narrowing the profession, and limiting the supply of legalized practitioners, must create a necessity for the intrusion of unqualified and contraband substitutes—and, secondly, to protect them in the free exercise of their several functions, unimpeded by corporation jealousy or intrigue.

If suitable and moderate qualifications only be required from each class of practitioners, there can be little doubt that regular and duly qualified candidates will so entirely fill the several walks of the profession, as to leave no room for the intrusion of quacks or pretenders.

These general principles being premised, it comes next to be considered, whence the practitioners of each class may be most beneficially derived. And on this head there can be no doubt, that, however speculative views might suggest more simple and direct modes of qualification than those which at present obtain, it is the dictate of sound policy, if not of necessity, still to resort, as far as is consistent with fundamental principles, to those existing institutions which circumstances have created, and to which time has lent its sanction.

The wants of society require physicians, surgeons, and general practitioners; the first practising physic exclusively, or physic and midwifery conjoined; the second surgery and physic, and sometimes midwifery; the third superadding pharmacy to the several other departments.

In this view, the profession presents us with a series, in which each department is seen embracing a wider field of practice than the one immediately above it. It may be typefied by a cone, of which the department of physic is the apex, that of general practice the base.

These several practitioners may be regarded as in some measure forming the gradations of rank in the profession, by which it accommodates itself to the corresponding gradations in general society; the physicians being suited more particularly to the higher orders; the surgeons holding an intermediate place between the physicians and general practitioners; and these latter embracing the whole community, from its highest to its lowest degrees, their utility rendering them necessary to the former, while their humility and habits of active industry fit them for extending their services to the lowest extreme.

These several views may perhaps be deemed rather fanciful, than real or useful. If I mistake not, however, some such illustrations are absolutely required, to convey to the public at large, notions even tolerably distinct and accurate, respecting the real nature of the several departments, and the relation which they bear to each other, and to the community.

To each of these classes, a more particular consideration must now be given; and, for reasons sufficiently obvious, I shall reverse the preceding order, beginning with the general practitioner.

From all the foregoing statements and considerations, it must be manifest, that this practitioner more perfectly represents the medical character than any other; that, in fact, he alone can be identified with the profession, of which they who compose the other departments are but partial members, formed into separate associations by casual influences, having no claim of abstract right to that superior, and almost exclusive countenance and protection which they have hitherto engaged, and dependent on contingencies only for maintaining a separate existence.

With respect to the qualifications of the general practitioners, it is requisite that they be fully competent to the practice of physic, surgery, midwifery, and pharmacy,—in fact, to every thing that medical science and practice can be supposed to extend to.

These several departments, regarded separately, would seem to require peculiar and distinct modes of education. When it is necessary, however, to combine them in the individual, the courses of instruction must, while they provide for the first service of the public, be so modified as to suit his personal convenience.

The candidate for general practice, then, should be acquainted with the elements of medical science, and with the nature and treatment of diseases. This knowledge is to be arrived at by means of lectures, study, and clinical observation. He must also be familiar with the practice of surgery, which, being an

art requiring considerable dexterity, is generally, and perhaps most effectually, attained by apprenticeship; although on this point opinions are by no means agreed. Midwifery, in its practical part, is learned at the public institutions for the relief of lying-in women, or in the private practice of teachers and professors; and pharmacy, like surgery, has for the most part been taught by apprenticeship also.

In this course, two apprenticeships are included, between which, as incompatible with each other, it is necessary to choose. Now, as the surgeon can readily, and actually does, combine pharmacy with his higher department, so as to teach both arts to his apprentice, while the apothecary can be supposed to teach only the inferior and subordinate one, there can be no hesitation in deciding, that the surgeon is the member of the profession best qualified for duly instructing and preparing the future candidate for general practice.

And on reference to facts, it will appear, that the natural tendency of human affairs to glide into those courses which are most congenial and beneficial, has actually so prevailed, as that a considerable part of the supply of general practitioners throughout England emanates from this source.

That it should exclusively do so, is the object to which legislative interference could, more beneficially than to any other, be directed. That different modes of qualifying general practitioners are expedient or desirable, cannot be shown. It is evident, that, of all the modes that exist, the most perfect is that which lays the foundation in surgery and physic, and superadds the other departments. That any injury or inconvenience could result from immediately establishing this as the system to be henceforward exclusively followed, it would be difficult to prove. All existing rights, however originally acquired, must, of course, be respected; consequently, there can be no interference with any practitioner actually engaged in practice. Every measure affecting the radical interests of the profession must be prospective. But as the apothecaries, and all other similar practitioners, aim at engaging in the practice, both of physic and surgery, it can surely be no unjustifiable exercise of authority, to require that all who henceforward enter the profession in any of its branches except that of physic, shall prove their competency, by pursuing the regular course of education laid down by the Colleges of Surgeons, and undergoing the necessary examinations before them;—in fact, by becoming members of the College.

We next come to Surgery, regarded as a distinct and separate department; and, as such, it is necessary to consider both the sphere of practice in which it is engaged; the qualifications

which its members should be endowed with; and the protection which they should receive from corporate authority, or legislative enactments.

The progress by which surgery became originally separated from physic has been distinctly traced, and explicitly stated. The division has been shown to have proceeded, not from any inherent necessity pointing to the improvement of the science or the benefit of the public, but from the arbitrary fiat of despotic power, and for purposes wholly unconnected with the science or profession.

When Linacre obtained the charter by which the London College of Physicians was incorporated, no notice was taken of surgery, which was then regarded as a degraded art.

Although no Royal College of Surgeons was founded until the present reign, there yet existed corporations in the several capitals of the kingdom, for giving to this body certain local political rights,—which from the denomination given to the surgeons on the continent of Europe, as formerly stated, were called the corporations of Barber-Surgeons. These I apprehend still exist as corporations of political influence, although totally void of connexion with either the science or practice of the art.

And it is a fact highly illustrative of the principles advanced in this Essay, that, although surgery was for a length of time left destitute of any royal charter of incorporation to give it respectability as a learned and scientific profession, yet academic sanction, and letters testimonial, which were attainable from one of our Universities in this art, appear never to have been sought for! The explanation of which is obvious; for the University statutes required, that the licensed surgeon should confine himself strictly to his own province, and not practise physic;—("quod fines artis tuæ non excedas, aut medicinam practices," are the words of the statute;) a condition so incompatible with the duties which this practitioner had to perform, as to be wholly inadmissible. A diploma shackled with such a condition, could be of little use, and was consequently not sought for. In time, Royal charters were obtained, embodying the surgeons into distinct colleges,—and under them, both the art of surgery, and the formation of general practitioners, have been materially advanced and improved.

Surgery has now a Royal College in each division of the United Kingdom, to regulate its education, and superintend its peculiar interests. These establishments vary somewhat from each other, and it is necessary to scrutinize their several differences, in order to judge rightly of the influence and importance attaching to each.

These differences chiefly regard the courses of education, and the qualifications required; the sources whence the necessary information is derived; and the facilities afterwards afforded to the candidate for accommodating himself to the wants and the wishes of the community.

The Edinburgh College of Surgeons has no school of surgery attached to it, unless a single professorship of surgery be considered as entitled to that appellation. It requires certain courses of education, with or without apprenticeship; and the test of examination is necessary to obtaining its license to practise, which examination extends to pharmacy, as well as surgery and physic. The surgeons of this college are in fact qualified as general practitioners, and from this body are the general practitioners of Scotland exclusively derived. So little objection indeed have the Scottish surgeons to the combination of pharmacy with the higher branch of the profession, that even the principal surgeons of the capital, who do not dispense medicines generally, keep them for the supply of their own patients.

The London College has no established school of surgery. But the deficiency is amply, and perhaps better, supplied by private professors of undoubted abilities, with which London abounds. This college requires apprenticeship, attendance on lectures and dissections, and examination. This last, however, is chiefly confined to surgery, and the medical treatment of surgical cases. It does not extend to physic or pharmacy, although the members are destined, and allowed by the college, to practise in both these departments.

The Dublin College of Surgeons, having no advantage of private professors to trust to, has an established school of surgery of acknowledged excellence. It requires apprenticeship, attendance on lectures and dissections, and a strict examination. But it examines as to surgical qualifications only,—or the medical treatment of surgical cases. The principles of surgical pharmacy are indeed taught in the college, and expected to be understood; but, disdaining all connexion with the practice thereof, the college has rendered it odious, by interdicting it to all surgeons practising in the capital. At the same time, acting on the principle of preserving the distinctness of departments, it abstains from examining its candidates in physic, lest it should appear to trench on the province of the physicians.

This last delicacy, however, seems to be giving way; for, of late years, I find a professor of physic has been added to the school of surgery; and, of course, the examination must be supposed to extend to physic also.

Since the boundary then is thus broken down with respect to the higher department, it will be difficult for this college to assign a sufficient reason why they still reject all connexion with pharmacy.

The great use of this body is to serve as general practitioners. These, to be really useful, must combine pharmacy with their other practice. So long as they are prevented from engaging in it, dispensers must exist as a separate class, and thus the profession becomes burdened with superfluous hands, who must inevitably derange the economy of the body at large, and pervert its best purposes. For the dispensers, finding pharmacy alone inadequate to support them, are forced upon extending their views to surgery and physic, both of which they practise extensively, without adequate qualification.

Thus the refusal of the surgeons to combine pharmacy with surgery, must even have the effect of forcing into existence a class of general practitioners of very inferior quality, to the incalculable injury, both of the regular profession, and of the community.

The public must be supplied with general practitioners: these cannot be so effectually formed by any means as by surgeons practising pharmacy: it is incumbent, therefore, on the surgical colleges, to ascertain, and avow the necessity of this combination, and to meet it openly, by qualifying their members equally in surgery, pharmacy, and physic.

It is a strong confirmation of the necessity which surgeons are under of qualifying themselves for medical as well as surgical practice, that many surgeons, particularly of the Irish College, sensible of the deficiencies of a mere surgical education, duly to qualify them for the duties which the natural sphere of their practice requires them to perform, actually go the length of superadding a regular medical education to their surgical, taking degrees in physic subsequently to becoming members of the Surgical College; thus effecting, by a tedious, circuitous, and expensive course of proceeding, what a well arranged system of professional education ought much more speedily and directly to accomplish.

Physicians at the present day are found to emanate from various sources; chiefly from the several universities of the United Kingdom. There are Doctors of Oxford and Cambridge, whose degrees are obtained by a certain observance of acts and terms, and are testimonies, rather of regular literary education, than proofs of ability for medical practice; of Edinburgh and Glasgow, in both of which Universities, a regular course of medical education, resident study, and actual examination, as to

the reality and extent of medical acquirement, are essential to obtaining degrees; of Dublin, which issues degrees on two foundations, one of the University, corresponding with those of Oxford and Cambridge, the other of the School of Physic, agreeing with Edinburgh and Glasgow; of Aberdeen and St Andrews, where the mere certificates of private individuals are deemed sufficient testimonies of medical desert, and a warrant for granting medical honours; and finally, of various foreign Universities.

From this statement alone, it must be manifest, that this department stands much in need of a better organization.

With respect to it, we may safely lay it down as a fundamental rule, that, whatever body assumes the right of answering for the physician's qualifications, and sanctioning his practice, should either provide him with the means of acquiring the necessary information, or at least insist on such a course of education being pursued, and on such proofs of real competency being evinced by actual examination, as should leave no doubt respecting the ability of the candidate. If medicine is to be accounted a practical art, full assurance ought undoubtedly to be given of the candidate's having been familiarized with its practice, not merely by solitary study, nor even by professional lectures, but also by long-continued and diligent clinical observation, without which the medical graduate, in entering on his career of practice, is but too likely to prove an unhappy character to himself, and an unsafe one to society.

On such grounds then, the Universities of Aberdeen and St Andrews should be divested of the privilege of granting degrees in physic, on the mere testimony of private certificates; a practice which has been most shamefully abused, and from which most baneful effects have resulted to the profession.

Edinburgh and Glasgow medical schools need no change.

That of Dublin ought to forego its antiquated and valueless University medical institution, and should confer degrees on the foundation of the school of physic only.

Oxford and Cambridge Universities should either establish competent schools of physic, or else should require from the candidates for medical honours, a competent course of medical education, framed, not according to the antiquated charters of the Colleges, but to the more enlightened experience of modern times. If such schools were founded, and attached to our Universities, the medical faculty composing them would form an unexceptionable body of examiners to ascertain and pronounce on the qualifications of candidates for degrees. But if these Universities, devoted as they are to the business of general edu-

cation, rather than of professional instruction, find it inexpedient to extend their already various and multiplied duties, then it would be incumbent on the legislature to make such provisions as the necessities of the case, and the high importance of the subject, would require.

When the general nature and tendencies of the profession at large come to be more clearly comprehended; when the medical character ceases to be confounded with that of the mere physician; when the importance of the general practitioner, so long felt and appreciated, comes to be openly acknowledged, then may the physicians proceed with safety to elevate the personal character of the members of that department, by enjoining a liberal course of general education, as well as of professional acquirements. No injury can then result; for, if this department be narrowed, as it necessarily must, by the effects of such injunctions, the deficiency thereby occasioned in the general profession, will be insensibly filled up by the remaining departments, and no irruption of empiricism be occasioned.

And, as the mere physician is a character required principally for the higher ranks of society, to uphold the dignity and literary reputation of the profession, and improve its science by the collateral aids which general science and literature afford, perhaps sound and enlightened policy would require, that his qualification should be rated rather above than below the ordinary mean.

It has been shown that this department is not of very extended utility, or in high demand. The lustre, however, which collegiate honours, a high antiquity, and general estimation, shed upon it, must ever cause it to be regarded as the department of highest rank and consequence.

On this account will it be an object of ambition to many aspiring minds, whose real interests should lead them to prefer the humbler, but more necessary department of general practice, where success is more speedy, and pecuniary recompense more certain. And as this ambition, if indulged in, would lead but to excess in this department, and consequent disappointment to the individual himself, it might be advisable to repress the tendency towards it, by making the qualifications higher than mediocrity of talents, or very slender fortune, could attain to.

Perhaps it would not be too much to require, that a degree in arts in one of our Universities, should precede in every instance the acquirement of a medical degree. The subject would require much consideration; but if the proper place of the medical department in the general profession were limited and defined,

the demand for its peculiar services ascertained, and the qualifications necessary to meet this demand more precisely determined, there could be little difficulty in deciding to what extent the several qualifications, whether literary or medical, should be insisted on, or from what sources they should be supplied.

That a close and intimate connexion, however, should continue to subsist between the department of physic and our Universities, is much to be desired; and it would be a subject of deep and lasting regret, if any disinclination on the part of the British Universities to improve its education, and perfect its qualifications, should be the means of disuniting them. As a practical art, which materially concerns the well-being of the public, the legislature is bound to provide for its efficiency and completeness. But when the more urgent demands of society are met by an adequate supply of well-educated general practitioners, it then becomes the legislature to promote, by suitable arrangements, the higher interests of the science, by preserving its connexion with general science and literature.

While the surgeons and general practitioners then continue to be educated in the way that best prepares them for the practice of their art, it seems fitting that the physician should still emanate from the Universities. The profession at large would thus be best preserved from degenerating into a mere trade, the physicians constantly infusing into it a salutary portion of enlarged principle, and liberal science. For the cultivation of these, no places can be so conducive, as our venerable Universities; for, however there may be evinced on the part of them an undue attachment to antiquated systems, and a tardiness in adopting those progressive improvements which the exercise of human intellect is continually arriving at, they yet exert a potent and most extensive influence on the progress of mind; an influence tending to the invigoration of natural faculties, and the extension of knowledge; and, paradoxical though it may appear, even to the creation of that innovating spirit which they seem in their corporate capacity so pertinaciously to resist.—'Every seminary of learning,' says an eloquent and impressive writer, 'is surrounded with an atmosphere of floating knowledge, where every mind may imbibe somewhat congenial to its own original conceptions.' Whence we may conclude, that, however courses of education may be restrained within narrow boundaries, by the too rigid adherence of our Universities to old established systems, the full exercise of intellect cannot be repressed, nor the progress of knowledge arrested.

It remains only to notice the medical corporations which exist in our several capitals, called Colleges of Physicians.

Originally, they might, no doubt, have rendered good service, both to the science and profession, by fostering their early endeavour, and protecting their interests in ruder and less auspicious times. But of what utility they are at the present day, it is not easy to demonstrate or conceive. They do not afford any means of medical instruction; neither do they give original qualifications to any practitioner. Some of them exercise a power indeed of re-examining graduate physicians, the very existence of which is a direct libel on our universities, and which also is most improperly placed in such hands. Men immersed in practice, can have little leisure for performing faithfully the duties of examiners, while their self-interest must necessarily beget some degree of jealous feeling towards those candidates, who are about to become rivals and competitors.

It is directly in proof of the existence of this feeling, that the College of Physicians of London deals very differently with candidates for admission, according as they announce their intention of practising in London, or the provinces; candidates for provincial practice, or extra-licentiates, being permitted to qualify, by undergoing a very lenient trial indeed, and paying an inconsiderable fee, while licentiates who aspire to practise in the capital are tried by much severer tests, and subjected to higher fines.

Whence this difference arises, or why the lives of his Majesty's liege subjects are to be deemed more precious in the city of London than throughout the rest of the kingdom, I leave to the College of Physicians to explain. To me the fact appears to admit of no sound interpretation; and seems well calculated to throw light on the policy which a corporation spirit, pursuing its own ends, unchecked by the higher considerations of natural equity, and regard for the welfare of the community, is ever prone to.

The propriety of any such reexamination may well be questioned. Were the universities properly organized with respect to their medical schools, and their degrees capable of being received as unequivocal testimonies of medical ability, there could be no pretext for subjecting medical graduates to such repeated ordeals.

But, supposing for a moment, that reexamination were necessary, the effects of jealousy should at least be guarded against, by leaving the examiners ignorant of the candidate's intentions respecting the scene of his future practice.

The power, however, of reexamining at all those whose qualifications have already been fully proved and attested, is so

incapable of good, and so liable to abuse and perversion, that it should not be allowed; and if it were deemed requisite that such bodies as Colleges of Physicians should exist for superintending the department of Physic, their power should at least be confined to ascertaining the genuineness of the university degree presented by any applicant for enrolment, on the authentication of which he should be immediately admitted a member of the body corporate, and suffered to exercise his talents, in town or country, as best suited his own convenience, and the wants of the public.

Much more consonant, however, would it be with the natural unity of the profession, to constitute one great superintending body, or medical institution, in each division of the United Kingdom, to comprise both the physicians, surgeons, and general practitioners, and to be governed by a medical council annually appointed, and selected in certain proportions from the several departments.

Such an institution would be of incalculable advantage, by consolidating the various views and interests of the profession, and directing them to their only legitimate end, the good of the community.

In addition, too, to its office of superintending the profession, it might be rendered of essential service to the state. It might be the great Medical Council of the nation, to give judgment in all cases where medical truth was the issue by which litigation was to be tried, or the necessity of legislative coercion ascertained; as in cases of offensive or injurious manufactories requiring removal,—of child-murder,—alleged rape, or poisoning,—of quarantine, &c. It might also be a depository for the preservation of medical learning, by founding a great national library; it might form also a grand national museum of anatomy and natural history; it might establish professorships in the different branches of medicine, and the accessory sciences, so as to excite greater competition among the private professors, and provide a resource against any failure or deterioration of the private schools.

An institution thus formed, too, would be so balanced, that the departments composing it must effectually counteract each other in all selfish and sinister tendencies, and irresistibly cooperate, both for their common interests and for the public good.

As penal and restrictive enactments have at all times been so much resorted to for regulating political institutions, and controlling the community, it may be right to inquire how far they should form any part of an enlarged and enlightened system of medical polity.

That they never can have effect, where the general conc
ce of the public is wanting, multiplied experience has pr
Without entering then into any deep investigation of
ıral rights and liberties of the subject, or the fundame
ciples by which the infliction of penalties and impositio
ictions are in any instance to be justified, I shall briefly
k, that if the Legislature provide all due facility for the s
of regular and legalized practitioners, equalling the dem
; to ensure a sufficiency of such accommodation to the
, it has every right afterwards to insist, that the denomi
tions by which such regular practitioners are distinguished, sl
be strictly confined to them, and not usurped by unquali
pretenders. So far the interference of law is but a protect
from imposition, not an infringement of right.

To attempt to restrain the public from seeking advice in
quarter, or any individual from giving it when applied to
absurd, and must ever be nugatory; for the public never
submit to such dictation. No one, however, who is not d
qualified, should be suffered to assume a denomination calcu
ed to mislead the public into a belief of his competency,—o
hold out to any, signals or seducements to lure them to his t
To this extent may restriction be carried, without the sligh
trespass on natural rights, or the least risk of impeding the
service of the public; beyond it, they can neither prove
nor salutary.

It may perhaps be thought, that I have passed over, with
slight notice, the class of apothecaries, together with the vari
anomalous adventurers, which the department of general p
tice, at this moment embraces. If I mistake not, I have s
ciently shown, that, however variously qualified, and differe
designated, they come all under the description of general p
titioners; and, therefore, all the observations which I have m
on this species of practitioners apply to them. It has been sh
too, I think, that, of all the practitioners who labour in this
partment, the regularly educated surgeon-apothecary is the
best qualified for fulfilling its arduous, complicated, and imp
ant duties. To assimilate all the heterogeneous materials,
which the lower ranks of the profession are composed, to
tried and approved character, is therefore the bounden duty
the Legislature; and though it cannot, consistently with eq
or sound policy, interfere with those who are already in poss
sion of this department, however unsupported their origi
claims, it has every right to require, that the rising generat
shall qualify themselves in that way which is deemed most c
ducive to the public good, and the true interests of the pro

sion; by which means it will effectually but insensibly remov that reproach, which the present mass of ignorance and incom petence has too frequently drawn down on a noble and libera profession, and unite all its scattered and discordant element in one harmonious and efficient institution.

As a consolidation of pharmacy with the general professio constitutes an essential part of the proposed system, and as it exclusive rights and privileges would thus merge in the body a large, I have not distracted the attention, by dwelling on th constitution of the several corporations of apothecaries, nor o the powers which they possess of controlling the practice o pharmacy.

Should it, however, be decreed, that these bodies are t maintain a separate existence, (which I trust I have sufficientl shown to be uncalled for by any public want or exigency, whil it must prove fatal to any just or beneficial regulation of th profession at large), such mischievous power as that which th Dublin Corporation of Apothecaries derives from its charters of limiting the practice of pharmacy strictly to members of it own body, to the exclusion of both surgeons and physicians, ought to be recalled: And it is essential to the welfare of th country where this power is exercised, that it be speedily with drawn; for it has at this moment a most injurious operation, i preventing the many excellent practitioners who have been re leased from the service of the army and navy, from settling i the country parts of Ireland, where there is a grievous want o good general practitioners, and where these valuable men woul be of the highest benefit to the country. It is clear, however, that the districts which I allude to, are not sufficiently opulen to maintain both the surgeon and apothecary: In all competi tion between them, it is also clear that the former must giv way; and, therefore, if it be deemed of advantage that th well experienced naval and military surgeons should find a suit able retreat for themselves in the towns and villages of Ireland, and there render to the public those valuable services of which the country stands notoriously in need; these ends can in n way be attained, but by revising the Apothecaries' Statute of In corporation, abridging their control, and throwing open phar macy both to surgeons and physicians.

Ere I conclude, let me offer a few words on another heav and just reproach, to which the medical polity of our country is liable. The extent to which gross and open quackery is car ried on, by means of secret remedies, is grievous and unparal leled. This is an evil of no ordinary magnitude; for, though cases may readily be adduced of the successful exhibition o

such drugs, it will hardly be disputed that the instances of unprofitable and of deleterious employment outweigh these an hundred fold. In defence of the present system it has, I know, been plausibly urged, that, by the opportunity which the granting of patents affords, secret truth is brought to light, and valuable remedies introduced, the knowledge of which might otherwise perish with the inventors. If the remedies justly entitled to this description be separated from the myriads of panaceas which are so pompously blazoned forth in the columns of our daily prints, and their relative proportions be ascertained, I shall be quite content to have the question decided by this issue. If it be proved favourable to the dissemination of truth, the interests of science, and the rights of humanity, by the number and importance of the discoveries thus elicited, let a system so pregnant with advantage be by all means nurtured and maintained. But if, on the contrary, it shall be manifested that the practice of taking out patents, is but one of the many fraudulent schemes for promoting private gain at the expense of unwary credulity,—that the multitude of compositions thus foisted on the public, as the results of study and experiment, are composed of ingredients in familiar use, whose powers are well known to the regular faculty, and are oftentimes injured and impaired, rather than improved or increased, by the farrago with which, for sake of originality, and to establish a legal claim to his patent, the inventor thinks proper to combine them,—that the indiscriminate exhibition of such drugs, which the impudent and false assertions of the patentees obtrude on the public by every expedient, and present with all the speciousness of attested facts, inevitably lead to, is the means of destruction to thousands;—if these things be so, it may behove the Legislature to weigh well how far evils of such magnitude are counterbalanced by the slight and equivocal benefit which the defence contends for, or even by the amount of revenue which the stamps and advertisements of charlatanry afford to the State. Should the evils ascribed to the present system of legalized delusion be demonstratively proved, other and better means, both of rewarding ingenuity and enriching the exchequer, may surely be devised. If a fortunate and meritorious discovery of a useful drug or compound medicine be alleged, let the claimant, who, not content with honourable fame, and the gratification of his own benevolent feelings, seeks the more substantial meed of pecuniary benefit, boldly prefer his claim to the Government,—let the merits of his improvement be scrutinized by the medical council of the nation, and its value ascertained,—and let him receive a suitable, and not sparing reward from the liberality of his country. But let not every daring and hardened

impostor, who can muster up the cost of procuring a patent, and sear his conscience to the point of sacredly attesting those falsehoods, by which he unblushingly maintains the efficacy of his inert or noxious nostrums, have power to extend his deceptions under the sanction of royal license, or to practise successfully this juggle of the worst kind.

That the subject is attended with some difficulty, I am well aware; for, indulged as the public have so long been in this seductive but ruinous source of high raised hope and confident expectation, which boldly promises relief to every pain, a cure for every ill, however inveterate or irremediable its nature may be,—they will not readily forego their customary cordial, nor endure that it should be wholly or suddenly withdrawn. The subject, however, may be taken up with the hope of diminishing, as far as is practicable, the baneful effects of the present system;—and though the present extent of this species of quackery may perhaps admit of no immediate reduction, yet suitable means may be provided for preventing its further increase.

It has been further urged in defence of quack-medicines, that they afford a ready refuge in cases of slight and transient ailments, which need not the formal attendance of a medical practitioner; that they are convenient, too, where the cost of this attendance could not be afforded. Though I am persuaded that there is much fallacy in both these pleas,—that the domestic treatment of slight ailments, especially by quack medicines, is oftentimes the source of protracted and inveterate diseases,—and that, where there is inability to see a medical practitioner, the humanity and liberality of the profession will never be appealed to in vain,—yet I am willing to admit, that formulæ of simple remedies, for domestic exhibition, are an advantage. These may, however, be provided from a much less questionable source; and it might be required of the medical institution, or whatever other presidency the profession was placed under, to provide a body of such formulæ, a popular pharmacopœia, which should lay down the best composition of drugs for simple occasions, the doses in which they might be safely administered, and the more obvious symptoms of disease to which they might be applied.

One more excuse has been offered for quack medicines;—and it has been argued, that, as there are many diseases beyond the reach of regular medicine, it would be cruel to condemn the unhappy objects of such maladies to utter hopelessness, or to deprive them of the consolation which the delusive promises of quackery afford them. Without stopping to examine the soundness of this reasoning, or to estimate the value or expediency of that continued delusion, which the argument supposes

the unhappy sufferers to be under, I shall briefly remark, that their right to this solace may well be contested, if, in alleviating their ills, it be the means of reducing others to the same deplorable condition. In fine, if quackery and secret remedies can be proved conducive to the general healthfulness of the nation, they ought undoubtedly to be supported and encouraged; but if otherwise, they should as certainly be suppressed and restrained, however they may contribute to partial gratification, or afford a temporary gleam of hope to those who are beyond the reach of effectual relief.

Having thus slightly sketched what appear to me to be the reformations chiefly required in our system of medical polity, I shall conclude this essay with briefly recapitulating the arrangements proposed.

The profession of physic to be organized by the Legislature.

Conformably with its natural tendencies, and the manifest and ascertained wants of the community, to consist only of general practitioners, surgeons, and physicians.

Physicians still to emanate from the universities, but, in every instance, to undergo a regular course of medical instruction, both theoretical and practical, and be proved as to their competency by actual examinations, previous to obtaining their medical degrees.

Surgeons to be qualified, as heretofore, by apprenticeship, if this should continue to be deemed essential,—and by attendance on lectures, dissections, and hospital practice; a competent knowledge of physic and pharmacy being superadded to their other attainments, in order to qualify them for acting as general practitioners.

The corporations, at present so numerous, inconsistent, and unprofitable, to be consolidated, and one general medical institution to be established for each division of the United Kingdom, to include all members of the profession resident therein, whether physicians, surgeons, or general practitioners.

Each institution to be governed by a council, annually elected, in certain proportions, from the practitioners of each class resident in the metropolis.

The objects of the institutions to be,—to superintend the general profession throughout the United Kingdom, each in its own division, yet all in concert, and with such a community of rights and privileges mutually established, as should leave the individual practitioner unshackled by useless trammels, and free to employ his talents in whatever way may be most conducive to the mutual advantage of himself and the public.

With respect to the details of superintendence, each institu-

tion to scrutinize the degrees of all physicians seeking admission into it; to examine all candidates for surgical or general practice by a suitable court of examiners, elected out of the general medical council in due proportions, from each department; to found professorships in the several branches of medical and physical science; to form a national medical library; to establish a national museum of anatomy and natural history; to publish a national pharmacopœia, the several institutions acting in concert, so that their several pharmacopœias shall correspond; to provide also a popular pharmacopœia, containing such simple formulæ as may be safely entrusted to domestic management, accompanied by clear and precise instructions for applying them to those slighter ailments which are not generally considered as claiming the attendance of the medical practitioner, and yet, when neglected or maltreated in the beginning, too often lay the foundation of severe and irremediable disease; and, finally, to constitute the great medical council of the nation, or court of appeal, for all occasions on which either the Courts of Justice or the Legislature might require its assistance.

The pretences of quackery being thus removed, the open protection which it now enjoys, by means of royal patents, to be withdrawn, and the diffusion of its glaring falsehoods through the medium of the public press to be discountenanced, by whatever means the Legislature in its wisdom should deem just and expedient.

By such provisions as the foregoing, it is humbly presumed, that the energies of the profession would be most effectually called forth, and the science improved; that the public at large would be benefited, and the individual members of the profession preserved from undue collision amongst each other, and secured in all those rights and privileges which the present state of the profession, so disorganized and incapable, notoriously fails of protecting.

When the soundness of the principles on which these several propositions rest is considered, and the facility of carrying them into effect without the slightest infringement of personal rights, or the injury of any individual, is contemplated,—it is hoped that the adoption of the system will not be vehemently opposed by any part of the profession; and that an enlightened Legislature, anxious for the public good, will use its endeavour to promote this in so essential a particular, by effecting a reformation so loudly called for.

APPENDIX.

In a matter so vitally important to the whole community as that which is treated of in the preceding pages, and involving such various and conflicting interests, no representations should be admitted on mere individual authority, or which have not their truth established by incontestable evidence.

No means seem so suitable or powerful for eliciting the necessary information from the several sources capable of affording it, or for establishing the great leading facts, on which general conclusions to be just must be founded, as the appointment of a Committee of the House of Commons, to inquire into the state of the medical profession, and to point out what amendments appear to be required therein.

Should the Legislature, in their wisdom, think fit to appoint such a committee, its labours would be materially facilitated, and its scrutiny rendered more direct and effectual, if a comprehensive sketch were prepared, pointing out the more important objects of inquiry, and specifying the more essential data on which the committee should rest their conclusions.

In the following pages, such a sketch is attempted; and it is presumed, that, if all the facts and circumstances referred to therein were duly ascertained, sufficient materials would be accumulated to enable the Legislature to judge with much certainty and precision respecting the natural tendencies of the profession, the mutual dependence and connexion of its several departments with each other, and the relationship which the whole bears to the general community.

The following documents are important, and would be readily obtained, when called for by authority.

The statutes of the Universities, as far as they regard the courses of medical instruction, and the inauguration of physicians.

The courses of medical studies provided by the Universities, the qualifications insisted on as requisite for obtaining degrees, and the nature of the proofs by which these qualifications are ascertained.

The charters of the several Colleges of Physicians,—their by-laws,—particulars of establishment,—extent and general appropriation of funds,—amount of fees levied from each member and licentiate,—and the extent to which the penal and restrictive powers conferred by the several charters are exercised.

The charters of the several Colleges of Surgeons,—their by-laws,—courses of education,—qualifications necessary for becoming members and licentiates,—state of funds,—appropria-

tion thereof,—establishment,—fees levied from members and licentiates.

The Apothecaries' charters, or statutes of incorporation,—their by-laws,—courses of education,—state of funds,—appropriation thereof,—establishments, and fees of initiation.

The foregoing documents and returns would be readily furnished, on suitable application being made to the proper officers.

The following are objects of investigation by means of statistical inquiries.

The actual number of medical practitioners, both regular and irregular, throughout the United Kingdom, taken by counties or districts, with the peculiar distinctions and qualifications of each practitioner, authenticated by solemn declaration of the individual, and verified upon oath, if required.

If possible, it would be most desirable to obtain some return of the physicians, and other regularly educated medical men, who have retired from the profession, from the impracticability of gaining a livelihood therein; or who, having qualified themselves for practice, have been deterred from entering on it, by contemplating the actual state of the profession; also of those who, still adhering to the profession, find their utmost endeavours rendered ineffectual, their prospects blighted, and all hopes of reasonable emolument cut off, by the irresistible competition of the general practitioners, and the obstacles which oppose their engaging in the line of general practice themselves.

A return of this kind must necessarily be very defective; but, however imperfect, it would be one of high interest, and afford much valuable information.

In order to ascertain the real state of medical practice, and the practicability of preserving and enforcing those distinctions in the profession which our present system of medical polity enjoins, and our several chartered bodies endeavour so strenuously to uphold, the following inquiries should be proposed to those individuals of the different departments, who might be examined before the committee.

To the Physicians.

How far they are required to officiate as surgeons, in drawing blood, prescribing for surgical ailments, &c.?

What advantage or inconvenience is experienced by the physician from his not exercising the art of surgery, or at least performing its minor operations?

To the Surgeons.

How far they are engaged in the practice of physic? Whe-

ther they could possibly pursue the exercise of their proper profession without practising physic? What advantages accrue from surgeons dispensing also?

To the Apothecaries.

How far they practise physic and surgery? Whether the practice of dispensing does not impose on them an inevitable necessity of prescribing also? In short, whether they are not, to all intents and purposes, general practitioners, differing from the surgeon-apothecaries only by the inferiority of their original qualifications? Whether any just grounds of complaint could be substantiated, if the whole class were prospectively to merge in the class of surgeon-apothecaries, forming thereby one comprehensive body of general practitioners?

As a fact illustrative of a peculiar connexion subsisting between pharmacy and the higher departments, which selfish cupidity has given rise to, it should not be concealed, that there are both surgeons and physicians who make a practice of sending their prescriptions to particular druggists, and of participating in the profits. The writer of this article has some reason to believe, that the practice prevails but too generally. He has himself received a circular letter from a druggist entering on business, and which is now lying before him, in which it is stated, that 'twenty per cent. was allowed on physicians' prescriptions.'—Such a fact should be unequivocally ascertained. Should it prove true, it may be asked, in what do such surgeons and physicians differ from general practitioners, except in being less honest, and less respectable?

II.

Observations on the Directions given by various Writers on the Practice of Midwifery, for Turning the Child; with an Account of an Improved Method of performing that Operation. By John Breen, M. D. Licentiate of the King and Queen's College of Physicians in Ireland, late Assistant to the Lying-in Hospital, Dublin.

To suggest an improvement in an operation frequently practised, for more than two centuries, by many eminent men, or to point out a variety in the method of performing it, at first

view may appear presumptuous, or even ridiculous. But on reflecting that, in machinery and mechanical contrivances, improvements are daily made that excite surprise, equally by their simplicity and utility, the writer will be pardoned for instituting an inquiry into the best method of performing so important an operation, and questioning the propriety of the practice recommended in books of most approved authority on the subject. And though it may be doubted, whether society has been more benefited or injured by the inventions of the forceps and lever, few practitioners of midwifery will hesitate to acknowledge the unequivocal advantages of turning, in certain preternatural presentations, since, without this resource, left to unassisted Nature, both parent and child would in most instances perish.

When a well instructed accoucheur is in early attendance, little difficulty occurs in the management of the majority of cases of this description. Very considerable obstacles, however, now and then occur, which, were it the intention of the author to write a dissertation on the general management of preternatural labour, it would be his duty to point out. Such not being the purpose of this paper, it may be allowed to illustrate the occasional difficulties, by reference to writers of deserved eminence, and extensive practice, who describe from actual experience. Mauriceau, Vol. I. p. 268, thus expresses himself: ' Celle-ci est la plus rude, et la plus laborieuse et penible de toutes les operations de chirurgie, en laquelle le chirurgien sue quelquefois à grosses goutes, même au plus grand froid de l'hyver, pour la peine et difficulté qu'il y rencontre ordinairement.' Dr Sims, in the Medical and Physical Journal for June 1802, recommends, in certain difficult cases of arm presentation, to use the crotchet, and deliver in the manner least likely to injure the mother. Dr Joseph Clark of Dublin, in a letter to Dr Sims, published in a subsequent Number of the same Journal, approves of this practice. These highly respectable authorities sufficiently demonstrate the difficulty that sometimes attends the management of presentations of the shoulder and arm. I do not mean to assert, that the method I recommend will supersede such an expedient, but I conceive it will render the necessity of resorting to it less frequent.

An investigation of the mechanism of the operation of turning, and a demonstration of the best method of performing it, are requisite steps in our inquiry. If it should appear that the most esteemed writers on midwifery have not treated this subject with that degree of attention which its importance merits, such inquiry will be useful at least to the junior practitioner.

To have a clear idea of our subject, it is necessary to consider, in the first place, what is the natural position of the fœtus *in*

utero. It is now fully ascertained, that the child is disposed in such a manner that it may occupy the least possible space. For this purpose the head is inclined on the chest, the spine incurvated forward, and the lower extremities so folded, that the knees are nearly in contact with the upper part of the abdomen, the heels applied to the breech, with the ankles generally crossing each other. The superior extremities vary in their position, and perhaps will not be found exactly similarly circumstanced in any two cases. On the contrary, the position of the lower extremities, with regard to the trunk, is nearly the same, whatever part may present at the brim of the pelvis in the commencement of labour. In proof of the constancy and uniformity of the relative position of the lower extremities with regard to the trunk, it is observed, that the new-born infant, left to itself, folds its lower limbs in the manner now described. Deviations then from this position must be considered as exceptions to a general law. Hence it would seem to follow, that where it may be necessary to turn the child, the operator should not remove the inferior extremities from this natural position, provided he can effect his purpose while they remain in it; and it is the principal object of this paper to show, that, in most instances, he has this power. As the child occupies the least possible space in the uterus in the position described, more power and freedom is given, by this circumstance, to the hand of the operator; consequently any unfavourable situation of the child is more easily altered while it is in this position.

Let us now consider what change of situation the child must undergo, where we turn, in preternatural presentations of the superior extremities. Reflection will satisfy us, that it must revolve on the lesser axis of the trunk, and describe an arch more or less extensive. By the lesser axis will be understood an imaginary line passing from side to side, nearly opposite the umbilicus, represented in the plate by the line X x. It is obvious, that, in all presentations of the superior parts of the child, where it is turned, this kind of rotatory movement must be effected. The next step is to ascertain how the child can be made revolve with the greatest facility in the manner pointed out. Since the writings of Ambrose Paré, who, in modern times, gave the first positive instructions to turn, most succeeding writers on midwifery, including Mauriceau, Smellie, Baudeloque, Denman, Hamilton, Burns, and Merriman, direct a foot or the feet to be sought for, and the child to be thus turned. The error of these directions will, I conceive, be made to appear in the progress of this inquiry.

The plate represents one of the most difficult preternatural cases, and is nearly a copy from Smellie, (being his 34th plate),

to avoid the imputation of inventing a position favourable to the illustration of the method now recommended. Were this plate exhibited to an intelligent person, whose mind had not been biassed by such expressions as 'tirer par les pieds,' 'search for the feet and turn,' and an inquiry made from such an individual, what would be the best method of changing the situation of the child, so that the head should be removed towards the fundus uteri, little doubt can exist, that he would direct one or two fingers to be hooked in the flexure of the knee, and the other hand to be applied to the presenting part, which should be pushed gently upwards, while the hand engaged in the uterus should be drawn downwards and forwards, towards the centre of the longest diameter of the brim of the pelvis. By thus proceeding, the child would be made revolve on the lesser axis of the trunk, and the foot would be brought into the vagina within the reach of a noose. By adopting a different procedure, and endeavouring to lay hold of a foot, according to the usual directions, it is obvious, that the hand of the operator must traverse a greater space of the uterus, a matter of very considerable difficulty, either when the action of that viscus is strong, or when it is closely contracted on the body of the child. This difficulty being surmounted, when the foot is laid hold on, it is very apt to slip and recede from the grasp, as well from the violence of uterine action, as from the hand being cramped, and nearly powerless, by reason of the previous exertion. Those of my readers engaged in the practice of midwifery will be well aware, that these difficulties are not imaginary, but such as frequently occur, and cause extreme embarrassment to the practitioner, and much additional pain to the patient. By adhering to the direction of hooking the knee, the hand of the operator is in a great measure protected during the pains, and he is enabled deliberately to proportion the force requisite to change the position to the resistance he encounters. Besides, as the knees must have been nearly in contact with the superior part of the abdomen from the earliest development of the extremities of the embryo, should what may be called accidental circumstances have removed them from this natural and usual position, but little force will be requisite to restore them to it. I am satisfied it sometimes happens in a position such as is represented in the plate, that when the proper measures are not taken in time, that, by the strong and violent action of the uterus, an inferior extremity may be removed from the natural situation, and a foot brought nearer than the knee to the vagina. In such case it will of course be proper to take hold of the foot in preference to searching for the knee. This occurrence I consider more likely to have frequently taken place when the practice of midwifery

was generally entrusted to females; and perhaps it assists in explaining the almost universal direction of writers on the subject, to search for the feet. By a timely introduction of the hand, in the great majority of cases, the knees will be found in a state of flexure near the abdomen.

Having now endeavoured to give a general view of the operation, I will next proceed to point out, more particularly and explicitly, the manner in which it is to be performed. When the practitioner has decided on the propriety of turning, the first thing to be ascertained is, whether the os uteri be sufficiently dilated to allow the introduction of the hand? I pass by the consideration of the few cases in which it may be proper artificially to dilate that part. The state of the os uteri being favourable, the patient is to be placed on her left side, in the manner women are usually delivered in these countries, as, by deviating as little as possible from the ordinary method, our patient and her friends will be the less alarmed, and more satisfied. The hand of the operator, lubricated with some unctuous matter, and forming a conical figure, is to be introduced slowly and cautiously through the vagina and os uteri, along the abdomen of the child, on which, as much as can be, it is to lie at rest during each pain. In the intervals of pain the hand must be pushed upwards until it arrive at one of the knees; one or two fingers should now be hooked in the flexure of this part. The operator must then draw the knee downward and forward, towards the centre of the great diameter of the brim of the pelvis; and, if any difficulty occur, he will, at the same time, endeavour gently to push up the presenting part. Should the child still continue jammed, after using moderate force, I would recommend the situation of the hand in utero to be varied, and the fingers to be hooked in the flexure of the other knee. When, by this procedure, one foot is brought within the reach of a noose, it may be sometimes necessary, after applying one, to retrace the same steps to bring the second within the power of a similar application. By acting according to these directions, I can scarcely conceive the possibility of failure, where it is practicable to introduce the hand. Should the presenting part be so wedged in the pelvis as not to permit this measure with safety, it then becomes a subject for consideration, whether the method of Dr Sims before mentioned is to be acted on? or whether spontaneous evolution * is to be trusted to? It would be foreign to the purpose of this paper to discuss these points. I must, however, observe, that I have now pointed out difficulties that I have not experienced

* An ingenious friend, Dr Douglas of this city, in an Essay on Spontaneous Evolution, maintains that it will universally occur.

since I relinquished the practice of searching for the feet, as I have universally found, that, when I reached a knee, the remainder of the operation was easily accomplished.

In my own practice, I always introduce the left hand *per vaginam*, for the purpose of having the right uncramped, and, therefore, more efficient in expediting the latter part of the delivery, particularly the quick extrication of the head, on which the preservation of the life of the child so essentially depends.

In concluding the first part of what I proposed at the commencement of this Essay, I can state, that the alteration of practice I suggest is not the hypothesis of the closet, but is an operation that has been often successfully practised. The mode of operating I recommend, first suggested itself to me under circumstances peculiarly embarrassing, where it was nearly impossible to have a consultation;—so true it is that necessity is the parent of invention.

Intending to limit my observations to the mechanical part of the operation, I avoid treating of bleeding and opiates, as auxiliaries in facilitating it. For the same reason I do not point out more than by this slight reference, the advantages derivable from this method in cases of twins, and of prolapsus of the funis during labour; but my reader, if engaged in the practice of midwifery, will not be at a loss to make the application.

To exemplify my remark that the writers on midwifery, most generally and deservedly esteemed, direct a foot, or the feet, to be sought for; though not first in chronological order, I shall begin with Mr Denman, who, I think, must have occasionally operated in the manner I suggest. The following passage is to be found in the 2d volume of his Midwifery, page 245. 'But in the longitudinal contraction, the feet being at a great distance, there is more difficulty, though it is not always necessary to go up to the fundus; for when we come to the knees, these being cautiously bent, the legs and feet will be brought down together.' These directions are given as an exception to a general rule; for in the immediately preceding pages, 232, 237, 244, same volume, when laying down rules for the management of the most favourable, as well as the most difficult cases of arm and shoulder presentation, he distinctly and explicitly recommends the feet to be sought for. There can be little doubt, that, had not this judicious writer been biassed by the opinions of his predecessors, he would not thus slightly have passed over the advantages of turning by means of the knees.

It would lengthen this Essay, but not tend to any useful purpose, to quote the directions given by Mauriceau, Smellie, Baudeloque, Hamilton, Burns, and Merryman, for turning the

child. A reference to their works will prove, that each directs the feet to be sought for. There are delineations in plates, of presentations of the superior extremities, to which the method of turning I recommend does not appear applicable. These cases are either excessively rare, or, what I believe to be more likely, are the invention of authors in their closets.

Explanation of the Plate.

x x supposed axis.
A B C os sacrum and coccyx.
E F perinæum.

Dublin, 5, Cavendish Row,
November 14th, 1817.

III.

Account of the Effects of the Piper Cubeba in curing Gonorrhœa. By JOHN CRAWFURD Esq., Surgeon, Honourable East India Company's Service, Bengal.

I BEG leave to communicate to the public, through your Journal, that the cubeb pepper has been for the last three years used by European practitioners on the island of Java with wonderful success, in the cure of gonorrhœa virulenta and gleet. The pepper, well pounded, is exhibited in a little water, five or six times a day, in the quantity of a dessert spoonful, or about three drachms. It is unnecessary to remark, that abstinence from wine and all heating aliment is proper. The ardor urinæ ceases, the discharge grows ropy, commonly in 48 hours, and frequently in less, and the disease ceases altogether soon after. These, of course, are the most successful effects of the medicine. In some cases the cure is slower; in a few it has been said to produce swelled testicle; and in a still smaller number it has been found altogether ineffectual. The sensible effects of the medicine are exceedingly mild. It occasions, though not always, a slight purging; it imparts to the urine its own peculiar odour, and it promotes its quantity. Now and then it occasions a flushing of the face and a burning heat in the palms of the hands and soles of the feet.

There is little merit to be ascribed to any individual for the discovery, if it really be one, to which I now allude; for the history of it, if I be rightly informed, is as follows.—An officer of the Indian army, sailing up the Ganges, contracted an inveterate gonorrhœa, and had recourse to the usual applications without effect. One of his Indian servants proposed the cubeb, and it

was used with success. He communicated the fact to the surgeon of his corps on Java, where the disease was very frequent; and by him it was used with the same advantage, and the practice disseminated throughout the island. It was at first confined to the English practitioners, but was taken up in time by the old Dutch surgeons, and pretty generally by those who attended the expedition which took possession of the island in 1816. I am bound in candour to state, with regard to myself personally, that I had no share in the introduction of this remedy. I was employed, while on Java, in pursuits foreign to my profession; and what I have now stated respecting the use of the cubeb is, if I except one or two very satisfactory cases, on the report of others. During the last few days, I have had an opportunity, in one case, of trying the effect of the cubeb, which has been most pointedly successful. The patient, in this instance, resided in the same apartments with myself, and I had consequently the best opportunity of distinguishing the symptoms and exhibiting the medicine. On the evening of the 16th instant, a discharge was perceived from the urethra, which was traced distinctly to a venereal contagion. The symptoms continued to increase during the forenoon of the 17th. About four o'clock, I began to exhibit the cubeb, and no less than five doses were given from that time to eleven at night. From six to nine o'clock next morning, two more doses were given. I then examined the patient, and discovered that the discharge had already become ropy, and that there was no heat of urine. The medicine was continued, and during that day six doses were exhibited in all. On the 18th, there was neither discharge nor ardor urinæ; but the medicine was continued for security on this day, as well as on the 19th; for it must be observed, that, if the use of the medicine be interrupted on the first appearance of a cure, a relapse will inevitably take place, even where all appearance of discharge or other symptom of disease has ceased.

With respect to the cubeb itself, it is the fruit of a pepper vine, the produce of the island of Java only, for it is not known even in any of the rest of the oriental islands. In the Javanese language it is called Cumucus. By the Javanese it is used in some diseases of children, but never in gonorrhœa. In Bengal, into which it is imported from Java, it is used in medicine; and it would appear, from what has been already stated, in gonorrhœa; but whether generally in this last I cannot say. The European practitioners of that country are, at all events, ignorant of its use in the disorder. I have been told, but cannot vouch for the accuracy of my information, that the cubeb is imported into Europe, and given to public singers at theatres to clear the voice.

I shall conclude this brief account of the cubeb in Goa, by observing that my friend Dr Barclay, when I mentioned to him its efficacy in gleet, suggested the possibility of its proving also a remedy in fluor albus. Should the cubeb ever become of general use as a medicine, it may be observed, that it grows in luxuriance and abundance in its native country, in every bazar of which it is exposed for sale. I have seen to the amount of 60 or 70 cwt. of it accumulated; and there is no reason why, in the event of a demand, it might not be afforded as cheaply and abundantly as black pepper.

Edinburgh, October 20th, 1817.

The Editor, since the communication of this singular property of cubebs by Mr Crawfurd, has had only one opportunity of trying them in this country. A woman from a considerable distance in the country, applied at the Public Dispensary of Edinburgh, on account of her husband, who, according to her description, laboured under gonorrhœa, and, as he stated, without having had impure connexion. One ounce of the cubeb powder was given to her, and she was desired to administer it to her husband, in doses of a tea spoonful, repeated three times a day. At next visit, eight days after the first, she reported that it had not had much effect, but that the discharge was rather diminished. She got upon this occasion two ounces, which were administered assiduously; and in a few days she came to the apothecary in great alarm, as swelled testicle had supervened. This, however, quickly yielded to proper treatment, and the discharge returned only in a slight degree.

This case, although unfortunate in its progress, on account of the patient's distant situation, confirms the specific action of the cubeb in checking the increased discharge from the mucous membrane of the urethra. The cubeb has also been tried extensively in the military hospitals in this city, and with success. A detailed report of its effects will be published in a future Number.

IV.

On the Effects of Nitre. By John Butter, F. L. S. Member of the Royal College of Surgeons, London; Membre de la Société d'Emulation de Paris, and Surgeon to the South Devon Militia.

Mrs E——t, æt. 25, wife of the quartermaster of the South Devon Militia, on the 17th March 1815, swallow-

ed two ounces of nitre, dissolved, by mistake, for an ounce of Epsom salts.

On the preceding day, she bought a quarter of a pound of nitre, and two ounces of Epsom salts at the same time, and placed the two papers on a chimney-piece near to each other on her return home.

Feeling unwell on this morning, she continued in bed, and desired her husband to mix half of one of the papers on the chimney-piece in some warm water, and give the mixture to her to drink, intending to have taken about an ounce of Epsom salts.

Instead of the paper of Epsom salts, that containing nitre was taken, and half of it mixed in some water, entirely through mistake, for it was neither known nor observed that any other paper lay by its side.

At the time of mixing, some difficulty arose in getting the crystals to dissolve, but this excited no suspicion that the substance was nitre.

Almost as soon as the solution was swallowed, vomiting ensued; first, of the contents of the stomach, and then of blood. We may suppose, that the nitre had its fullest effect of a morning before breakfast, for then the stomach is generally empty.

At the alarm of blood, I was sent for by an intelligent neighbour; and it was not until my arrival that questions were made about the substance which she had taken for salts.

When I saw her, vomiting had continued for near an hour. I observed that a good deal of fluid and clotted blood, of a purplish colour, had been ejected.

Having ascertained that the substance which she had taken was nitre, it immediately occurred to me, that, though Nature had provided the human stomach with animal mucus to defend its coats from the ordinary acrimonies of our food, yet that this mucus was not sufficiently abundant to prevent the corrosive action of so large a dose of nitre.

I also ascertained, that some few crystals were not dissolved, and that she also swallowed these.

I gave her a bason of warm water immediately, and ordered the same quantity to be given after each vomiting, whilst I went and procured, with as little delay as possible, half a pint of the strongest mucilage of gum-arabic that could be made, with a little laudanum added to it.

During my absence, about two quarts of warm water had been given at intervals, and as often rejected, mixed with purplish blood.

I gave one half of the mucilaginous mixture (℥iv.) which re-

mained on the stomach for twenty minutes; but when some thick water-gruel was given, the whole was vomited up, mixed with some clotted blood.

I then desired her to swallow a pint of thick water-gruel, which she almost immediately vomited up, with some more bloody fluid. I gave the remaining quantity of mucilage, which was likewise returned.

Some thick linseed tea was by this time prepared by my order, and of this she drank freely. It was also returned in a few minutes.

I did not, however, desist from getting her to drink alternately plentiful draughts of thick gruel or linseed tea, according as the one or the other happened to be prepared, as long as I observed blood thrown up from the stomach; for as long as I saw this, I judged that corrosion must be going on.

The patient, however, at last became almost faint from the gnawing and burning pains at the scrobiculus cordis; her pulse sunk in strength and frequency; a cold clammy sweat broke out, accompanied by shiverings; and she now begged a short respite.

I therefore gave another dose of mucilage of gum-arabic, with laudanum, which again pacified her stomach for a little time; but when her sickness returned, I repeated the large drinks of thick gruel and linseed tea.

She continued vomiting from 8 o'clock in the morning till 12 at noon, during which period, she must have drank and vomited above two gallons of liquids.

I now judged it prudent to tarry a little, as her strength became greatly exhausted, and as the nitre was probably all dissolved.

From 12 o'clock at noon till 6 in the evening, she took nothing; but then she became again sick, and vomited repeatedly, until 9 o'clock, some more grumous blood, both fluid and clotted. She took a little gruel, and remained twelve hours, till 9 o'clock next morning (18th), without taking any thing, but neither vomited nor slept.

18th March.—Appears much sunk this morning from the distressing pains in her stomach, which have not been continual, but violently spasmodic. Two glysters were administered last night, and one this morning, each made with gruel, salt, and castor oil. Three evacuations have been procured, and the last contains blood.

I now directed that she should have some tea, barely warm, with milk, which was retained; and small quantities of gruel to be taken during the day.

7 o'clock P. M.—Gruel and tea retained; vomiting ceased; gastric pains periodical and burning; two motions, blood in both; voided but little urine. To take small but repeated doses of gruel, and at night the following draught.

℞ Tinct. opii gtt. 40.
Mucilag. acaciæ ʒi. M. ft. h. s. sumend.

19th.—Better and easier; still rigors; pains are occasionally very burning, and diffused over the abdomen.

Tea and gruel ad libitum.

℞ Aquæ fontanæ ʒiv.
Potassæ subcarbon. gr. v. f. solut. et adde
Ol. olivar. opt. ʒij.
Tr. opii ʒi. Sqr. q. s. ut ft. mist. cujus sumt. cochl. larg. iij. 4ta horis.

20th.—No particular alteration.

24th.—Soreness over the abdomen still exists, and little lumps of blood have been observed in her stools for many days; but, with the exception of weakness, she has no great ailments, and, although nearly two months gone with child, it is worthy of remark, that no miscarriage has been caused.

April 1st.—I was again desired to see Mrs E—. It had been observed for a few days, that twitchings of her muscles had come on, and that many involuntary motions were thus produced.

When sitting in a chair she would suddenly leap up, and when in the act of doing one thing, would instantly turn to do another. The muscles would act quite contrary to the will, and do that which she neither wished, nor had the power to prevent.

Any medical person who saw her, would have pronounced the disease at once as a decided case of Chorea St Viti; and in fact her symptoms did afford every character of that disease, as laid down by Cullen in his Nosology.

This part of the history I consider as particularly interesting to both physiological and nosological writers; as it affords matter for speculation, whether the nervous disturbance was symptomatic of visceral irritation, or whether the irritating particles of the nitre, having got into the blood, stimulated the nerves in their circulation, and thus produced involuntary motions of muscles. The secretion of urine was never remarkably increased. About ten days had elapsed from the time of taking the nitre to the appearance of the nervous symptoms, which lasted about two months.

Under this affection, the pulse was 90, and weak, the left arm and leg chiefly affected; and her temper, which was naturally placid, now became annoyed by trifles.

When her stomach was empty, she felt worse, and had a constant pain in her back.

Applic. Empl. lyttæ dorso.
Sumat. Cinchonæ lancifol. contr. ℥ss. quotidie in lacte.
Ol. ricini ℥ss. p. r. n. sumend.

The bark was generally taken in divided doses on an empty stomach, mixed with milk. The spasmodic symptoms attained a frightful height, and gradually left her; but she did not completely regain her strength before her accouchement.

1815, Oct. 31.—I delivered this lady of a fine male child; her labour was more tedious than usual, owing to debility; and on the 29th October 1817, I attended her during the birth of another son, all of whom are living, and well.

REMARKS.

Many objects induce me to lay this case before the public.

The first is, to show the quantity of nitre which the human stomach can bear, without suffering death, under treatment similar to what I adopted; and to point out some of the effects of this substance.

2dly, To illustrate in some measure the history of another disease, the real nature of which is but little understood, because, as yet, we know but little of nervous physiology.

3dly, To show that the most violent emetics are not certain of producing abortion invariably.

At present, I am not aware that any case stands upon record, where a patient has taken and recovered from so large a dose of nitre.

Comparetti gives the case of a man who died by taking an ounce and a half of nitre dissolved by mistake.

Orfila relates many cases, where even one ounce or less has destroyed an adult; but gives no instance of recovery after any considerable quantity was taken.

M. Laflize has recorded the case of a lady, who was destroyed in three hours by only one ounce of nitre, dissolved and swallowed by mistake. *

It is allowed, that all salts do more injury when swallowed in the form of crystals, than in a dissolved state; and I have often seen horses much hurt by having powdered nitre given to them in their corn.

Nitre is considered by M. Orfila to act on the stomachs of dogs and men as an acrid and corrosive poison; that three grains produce death in dogs, if vomiting be prevented; and that its action at first is on the mucous tissue of the stomach, and thence on the nervous system in the manner of stupefiants.

* Journal de Médécine, de Chirurgie, et de Pharmacie, vol. 71.

For an account of the effects of nitre on the coats of the stomach in cases of death, I refer my readers to that excellent French work, entitled ' Toxicologie generale, par M. P. Orfila.'

The experiments of Mr Brodie in England, and M. Orfila in France, show that poisonous substances act with greater power, if introduced into the system by wounds, than when swallowed. The result of such experiments would be highly important, if known to farriers; who are apt, upon every occasion, when animals are gored or staked, to fill the wound with ' saltpetre,' as they term it, to prevent mortification, whereas these means produce the very effect which they are anxious to avoid.

I have known many a fine animal, when gored or staked, destroyed by filling the wound with nitre; and yet such is the rudeness and obstinacy of some of these men, that, in spite of every remonstrance I could use with one of them, he would fill the wound of a deer, which had been but slightly bit by a hound, with nitre; which produced gangrene, and the death of the animal.

Orfila says, that 3 grs. only of moistened nitre, rubbed into a wound on a dog, produced gangrene, which killed the animal in eight days. If this fact could but be impressed on the minds of those who treat the diseases of horned cattle, such an injurious practice would be abolished, and the life of many a valuable animal preserved.

On the whole, therefore, we may conclude, that nitre ranks in the catalogue of those poisonous substances, which, the more dangerous they are, become the more useful in skilful hands.

It will afford me real pleasure to find that these remarks tend in any way to the preservation of the living.

Plymouth, 1st Nov. 1817.

V.

On the Antivariolous Power of Vaccination. By G. Colville, Surgeon, Ayton.

This neighbourhood has been much alarmed, of late, by the appearance of small-pox. I would not have troubled you with an account of the disease, had I not understood, that very erroneous accounts, both of the numbers and of the cir-

cumstances under which they were affected, have been industriously circulated, and obtained credit far and near through the country, to the discredit of the vaccine inoculation. I have seen different accounts in the newspapers lately of the cow-pox having failed; but I hope they may be found as devoid of truth as the one following.

William Mitchell, between 25 and 30 years old, applied to me about the middle of September last. He complained of sickness at stomach, with pain in the breast and head, and bad taste in the mouth; I prescribed an emetic of ipecacuanha. Two days afterwards I was desired to visit him, as he was supposed to be seized with measles; I found him feverish, with an eruption upon his skin, principally upon the face, neck, and hands, which appeared to be some kind of pox; but it was quite in an incipient stage. I gave him some doses of compound powder of jalap, with calomel; ordered low diet; and desired that he might be kept cool. He had not been vaccinated. At that time I had to go to a considerable distance from home for four days. When I returned I found small-pox completely formed, and distinct. The eruptive fever passed over easily; but he was seized with secondary fever to an alarming degree, about the time the eruption began to decline, and died on the 18th day of the disease.

I was anxious to know where he had received the infection; and, upon inquiry, found that he had been drinking in a small public-house in the village a few days before he began to complain, where there was a child, newly recovered from small-pox, belonging to some vagrants (muggers) from Haddington.

A boy in the same house, and this young man's nephew, was also seized with small-pox three days previous to his death; he had considerable eruptive fever, but no secondary fever, and recovered in the usual time.

About this time several cases of chicken-pox and swine-pox appeared in the village, which created considerable alarm, as every case was magnified into small-pox. I made it my business to see them, and found no appearance of the latter disease, but in some a very slight fever for a day or two, in others none; some had an eruption of clear horny conical pox, without any surrounding inflammation; others had pox of a rounded square form, filled with yellow matter, some conical, others flattish, with a little surrounding inflammation: desquamation began in them all between the third and sixth days.

About the middle of October I was called to see a girl of twelve years old, also in the village, labouring under small-pox. She had great fever. The eruption continued to increase for about ten days; then secondary fever began, and continued

three or four days. She recovered. She was vaccinated when about a year old.

In this case, there was no doubt as to the nature of the disease; and I confess it began to stagger my faith in the antivariolous powers of cow-pox; till, after making the most minute inquiries, I learned, that she had *one* good pock; that the inoculator had taken a great deal of matter from it at different times; that so much inflammation succeeded, that it met on the inside of her arm.

In this case, it appears to me, that the antivariolous powers of the vaccine virus had been destroyed, either by the great degree of phlegmon (with abscess) that was excited, in puncturing the vesicle repeatedly, or by the virus having been taken away between the 8th and 10th day, the time when it is most likely to be absorbed, and affect the system. And here I cannot avoid censuring the practice of many inoculators, in taking out all the virus when there is only one vesicle, thereby probably destroying its antivariolous effects.

Within these three weeks, I have seen another case also in the village; a woman about 30 years old. The disease has run its course, and ended favourably. She was not vaccinated. There has been a free communication between these cases and the children of the village. With two of them, there were several vaccinated children in the same house, some in the same bed, and all escaped. It may be supposed there was no occasion to write any thing on the subject of cow-pox, it having already stood sufficient tests. Neither would I have done it, had I not been told a few days ago, that a report had been circulated, and was *attested* by a respectable person in this parish, that not less than thirty people had been seized with small-pox, and that all of them had been previously vaccinated. It is incalculable what mischief such a report may do, where people have not the means of ascertaining the truth; and as many children in the country round have never been vaccinated, from the carelessness or prejudice of their parents. However, in this village, and immediate neighbourhood, where the truth is known, all, but the careless, have been anxious to have their children vaccinated as speedily as possible.

The mark left upon the arm seems to be a very good test of a genuine vaccine vesicle. It is unnecessary for me to describe it, as it has been ably done already, by those who have wrote on the subject; but it brings to my recollection a circumstance that happened in my practice, about seven years ago. One of a family, who had been all vaccinated some years before, was seized with small-pox. I learned that this one had had the operation

performed when the practice was in its infancy. The parents were much alarmed for their children. I desired them to show me the marks upon their arms. I found three with proper marks; on the other two, there were marks, which showed that some slight abscess had existed, but it was quite different from the others. I explained these things to the people as well as I could, and prognosticated what took place, that those who had the proper mark escaped, when the others had the small-pox. Since then, when vaccinating, I have always observed the mark left after the scab has separated, when I could not see the pock in its progress; and upon that have formed my opinion as to the disease being genuine or spurious.

Since writing the above, I have heard of other two children, who have been seized with small-pox, but they were not vaccinated.

Ayton, Nov. 4, 1817.

VI.

Observations on Diseases of the Spinal Marow. By J. Abercrombie, M. D. Fellow of the Royal College of Surgeons, Edinburgh.

Too little attention seems to have been paid in this country to diseases of the spinal marrow. When we consider the delicacy of its structure, and its similarity to the structure of the brain, we expect to find it liable to numerous diseases, similar in their nature to the diseases of the brain: and when we recollect the numerous nerves that arise from it, we conclude that its diseases must have an extensive influence on many functions of the body. They open an interesting field of investigation, and, if prosecuted in a cautious and philosophical manner, promise important results in the pathology of many diseases hitherto involved in much obscurity.

By the ancients, much importance was attached to the spinal marrow as a seat of disease, especially in convulsive and paralytic affections. Alexander Trallian went so far as to maintain, that paralysis of the limbs has its origin in the brain, only when it is accompanied by paralysis of some part of the head, as the eyes or tongue; and that, when not accompanied by paralysis of any of these parts, it always depends on disease of the spinal

marrow. * Galen seems to have held nearly the same opinion. † In modern times, a good deal has been done in the investigation of this subject by continental writers, among whom may be mentioned Frank, ‡ Ludwig, § Astruc, ‖ Plouquet, ¶ Portal, ** Brera, †† and Ranchetti. ‡‡ Some of these writers, it must be confessed, have treated the subject in the way of hypothesis, or ingenious conjecture, rather than cautious investigation; but by others, many important facts have been related, which, when brought together, throw considerable light on the pathology of this important organ. In the observations which I am now to offer, I mean to attempt a very general outline of the diseases of the spinal marrow; and, in the present imperfect state of our knowledge, it will perhaps be best to arrange them simply, according to the morbid appearances that have been observed on dissection.

I.—*Inflammation and Suppuration.*

The following remarkable case I did not see during the life of the patient, but I was present at the examination of the body.

Mr R. aged 26, had been for several years liable to suppuration of the left ear. It usually discharged at all times a little matter; but he was also liable to severe attacks of pain, followed by more copious discharges. The pain on these occasions extended over the left side of his head, and often continued for a week with much severity. In the first week of April 1817, he was confined from his usual employment by pain of his head, affecting both the forehead and the occiput. He was in bed part of the day, but sat up during a considerable part of it, reading and writing; his appetite was bad, and his sleep disturbed; but there was little or no frequency of pulse, and for a week the complaint excited little attention. About the end of

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* Alexander Trallianus de Arte Medica, lib. i. cap. 16.

† De Loc. affect. cap. x.

‡ Frank, Oratio de Vertebralis Columnæ in Morbis Dignitate; in Delect. Opusculor. Vol. XI.

§ Ludwig, Adversaria Medico-practica, Vol. II. de Doloribus ad Spinam Dorsi.

‖ Astruc, Quæstio Medica an Morbo Colicæ Pictonum, rectius Rachialgiæ, Venæsectio.

¶ Plouquet, Exemplum Singularis Morbi Paralytici.

** Cours d'Anatomie Medicale, Tom. I. et IV.

†† Della Rachialgite, cenni Patologici, in Atti dell' Accademia Italian. Tom. I.

‡‡ Delle Struttura, delle Funzioni, é delle Malattie, della Midolla Spinale.

the week he complained of the pain extending down his neck. In the second week of his illness, the pains in the head nearly ceased, but the pain of the neck became more severe, and extended farther down along the spine. It continued for several days to extend farther and farther down, till at last it fixed, with intense severity, at the lower part of the spine, from which it extended round the body, particularly to the spinous processes of the ilia. From the time when the lower part of the spine became so much affected, he never complained of his head, and seldom of the upper parts of the spine, but he became affected with great uneasiness over the whole abdomen, and great pain and difficulty in passing his urine. From the violence of these complaints, his sufferings about the 15th became extreme; he could not lie in bed for five minutes at a time, but was generally walking about his house in extreme agitation, grasping the lower part of his back with both his hands, and gnashing his teeth from the intensity of pain:—he had no interval of ease, and was sometimes incoherent and unmanageable. On the 16th, he went to the warm bath, walking down three stairs, and into an adjoining street, with little assistance. After his return, he thought himself somewhat relieved, but the pain soon returned with its former severity, accompanied by great pain in the belly, severe dysuria, confusion of thought, and some difficulty of articulation. The pulse was about 100; the bowels were easily kept open by the ordinary purgatives. On the 17th, the symptoms were unabated. In the course of that day some squinting was observed, but it was not permanent. His speech was considerably affected; there were convulsive twitches of the face, and some difficulty of swallowing. The pulse was from 120 to 130. At night, some blood was taken from his arm, after which he became easier, and lay in bed for some time. After a short time, however, he got up again, and continued till three o'clock in the morning, sitting up, or walking about the house, tearing off his clothes, delirious and unmanageable. About three o'clock, he suddenly threw back his head with great violence, and fell into a state of coma, in which he continued for two hours, and died. No paralytic affection had been observed at any period of the disease,—no difficulty of breathing—no vomiting—and no convulsion—except the twitches of the face on the 17th. The pulse had varied from 90 to 130, and was reported to have been generally small and irregular. The bowels were easily kept open; but the pain of his back was much increased by going to stool. Two days before his death he had several attacks of shivering. Much purulent matter was discharged from the left ear during his illness, and an inflamed tumour had been formed behind it. The practice that

was employed consisted of general and topical bleeding, purgatives, and a blister on the back. The blood showed a strong inflammatory crust.

Dissection.—After the most careful examination, every part of the brain was found to be in the most healthy state. On taking out the brain, some gelatinous matter was found under the medulla oblongata, and purulent matter appeared in considerable quantity flowing from the spinal canal. On cutting across the spine about the 4th cervical vertebra, purulent matter still flowed from the lower part of the canal, in consequence of which I laid open the whole spine down to the sacrum, by cutting the vertebræ on each side of the spinous processes. I thus discovered the spinal marrow through its whole extent, covered with a coating of purulent matter, which lay between it and its membranes. No place could be detected in which it seemed to have been formed in such quantity as to have flowed over the other parts, but it was distributed with such uniformity, as gave it the appearance of having been produced by the disease extending gradually over the whole cord. It was, however, rather more abundant at three places; at the upper part of the canal, near the foramen magnum, about the middle of the dorsal vertebræ, and at the top of the sacrum. The substance of the spinal marrow was remarkably soft, and in some places much divided into filaments. All the viscera were sound.

This may be considered as an example of idiopathic active inflammation of the spinal cord or its membranes. I add the following from Mr Charles Bell, as an example of the disease, induced by external violence. A waggoner, sitting upon the shaft of his cart, was thrown off by a sudden jerk, and pitched on the back of his neck and shoulders. He was carried to the Middlesex Hospital, where he lay for a week, without complaining of any thing, except stiffness of the back part of his neck. He could move all his limbs with freedom. On the 8th day after his admission, he was seized with general convulsions, and locked jaw. After a few hours, he was affected with a singular convulsive motion of the jaw, which continued in a state of violent and incessant motion for about five minutes. This was followed by maniacal delirium. He then sunk into a state resembling typhus fever; and, after four days, was found to be paralytic in his lower extremities. "He lived a week after this, but continued sinking, and still retained about him much of the character of typhus. The day before his death, he was perfectly sensible, and had recovered sensation in his legs, for he could feel the rubbing of a finger upon them." On dissection, a great quantity of purulent matter was found within the spinal canal, which had drop-

ped down to the lower part of it. It appeared to have been formed about the last cervical and first dorsal vertebræ; there the intervertebral cartilage was destroyed, so that the pus had escaped outwards among the muscles.

In another case related by Mr Bell, in which the last dorsal vertebra had been fractured, purulent matter was found between the spinal cord and its membranes. In this case there was no paralysis, but fever, restlessness, vomiting, high delirium, and death from sudden sinking. *

These cases will serve to illustrate the active form of the disease. It also occurs under the form of *chronic inflammation.* This modification will be illustrated by the three following cases, which are related by Brera. †

1. A woman, aged 23, who had suffered considerably from syphilis, was seized with a severe quotidian intermittent, which proved very tedious, and resisted all the usual remedies. After some time, it was accompanied by pain in the lumbar region, diarrhœa, tormina, tenesmus, general debility, and emaciation. About three months after the commencement of the fever, she began to be affected with weakness and convulsive motions of the left lower extremity, resembling chorea. In walking, the leg was dragged; and if she attempted by a strong effort a greater degree of motion, it was thrown into convulsive distortions. Soon after, the left arm became affected in the same manner, and there were also convulsive motions of the face and eyes. At this time, the complaints in the bowels continued, but ceased soon after. The other symptoms increased. The difficulty of moving the limbs soon amounted to nearly complete paralysis; and to this were added, difficulty of articulation and diminution of memory. These terminated in loss of speech, coma, and death, which was preceded by general and terrible convulsions. Her death happened rather more than a month after the commencement of the convulsive affection of the leg. On *dissection,* some serous effusion was found in the thorax and in the ventricles of the brain. The spinal marrow was soft and flaccid, and to a considerable extent suppurated. Its investing membrane was in many places covered by a puriform fluid. There was also serous effusion in the spinal canal.

2. A man, aged 40, was received into the hospital of Crema in the spring of 1804, with no other complaint but general weakness and depression, for which no cause could be assigned. He lay constantly in bed, but complained of no pain; his appetite

* Quarterly Report of Cases in Surgery, Part II.

† Della Rachialgite, cenni patologici.

was good, and he was free from fever. Suspicions being entertained that he was feigning, threats and entreaties were used to induce him to exert himself, but in vain. Meanwhile, from being lean and pale, he became fat and ruddy. Thus he continued through the summer and autumn. As winter approached, he lost his appetite, and became lean and cachectic. In February 1805, he became completely paralytic, both in his legs and arms, and died suddenly in March. On dissection, all was sound in the head, the thorax, and the abdomen. In the spinal canal there was much effusion of bloody sanious fluid, with marks of inflammation and suppuration in the spinal cord, the substance of which was remarkably soft, and tending to dissolution.

3. A young soldier who had lately recovered from a petechial fever, was affected with pain in the dorsal vertebræ, difficulty of moving the lower extremities, suppression of urine, involuntary discharge of feces, general debility, and emaciation. A variety of practice was employed for several months, without relief. The weakness of the lower extremities increased to complete paralysis; and, soon after, the superior extremities became affected in the same manner. He then lost his speech. After lying a fortnight in this state, completely immoveable and speechless, but in possession of his intellectual faculties, he died suddenly. On *dissection* there was found no trace of disease in the brain, the thorax, or the abdomen. The spinal cord was inundated by a great quantity of sanious fluid. The cord itself was suppurated, dissolved, and disorganized, at the lower part of the dorsal region. Above this it preserved its natural figure, but was very soft. Its investing membranes, and the periosteum lining the canal of the vertebræ, were destroyed at the part where the cord was so much diseased; the vertebræ and their ligaments were sound.

The following case, related by Portal, * shows another modification of the disease. A woman had been long subject to a convulsive affection of the left lower extremity, immediately before the appearance of the menses. This occurred at every menstrual period. When the discharge took place freely it ceased. After the cessation of the menses, which happened at the age of 40, this extremity became paralytic. After some time she was affected with convulsions of the left arm, and soon after died comatose. On *dissection*, the membranes of the spinal cord were found in a state of inflammation at some of the last dorsal vertebræ and first lumbar; the cord itself was very red and soften-

* Cours d'Anatomie Médicale, Tom. IV. p. 117.

ed on the right side; on the left side it was sound through its whole extent.

Lieutaud, with his usual brevity, refers to a case in the Miscell. Curiosa, of a man who died of continued fever, after having been affected in the course of it with ischuria and paraplegia. The right kidney was found black, and the spinal marrow on that side 'affected in the same manner.' In a similar case quoted by him from Lælius à Fonte, in which death happened on the 14th day of continued fever, after paraplegia and suppression of urine, 'in conspectum venit ren sinister, inflammatus et syderatus; læsa etiam erat medulla spinalis in eodem latere.' *

When we review the phenomena which have been observed to accompany these diseases of the spinal cord, we find affections of all the principal organs. In the parts connected with the head and neck, we find distortion of the eyes, convulsive affections of the face, difficulty and loss of speech, loss of voice, contraction of the jaw resembling trismus, and difficulty of swallowing, which is said, in some cases, to have nearly resembled hydrophobia. In the viscera of the thorax there have been observed, palpitation and oppression of the heart, painful sense of stricture in the region of the diaphragm, and difficulty of breathing, which, in some cases, has been permanent, and, in others, has occurred in paroxysms, like asthma. In the organs of the abdomen and pelvis we find vomiting, pain of the bowels resembling colic, diarrhœa and tenesmus, involuntary discharge of feces, and suppression or incontinence of urine. In the muscular parts are observed convulsions and paralysis, (the convulsions, in some cases, resembling chorea, in others, tetanus); in the intellectual functions, loss of memory, delirium, and coma. In the present state of our knowledge, we are by no means prepared to say, that all these diseases proceed from the affection of the spinal cord, especially as we observe remarkable diversities, and considerable want of uniformity in the symptoms. This is most remarkable in the affections of the voluntary muscles. In some cases we find both convulsion and paralysis; in others, paralysis without convulsion; and in one very severe case above described, there occurred neither convulsion nor paralysis. We observe similar varieties in the affections of the other organs; and the particular organs that are affected, do not appear to depend invariably, as has been supposed, on the part of the spinal cord which is the seat of the disease. The

* Lieutaud, Historia Anatomico-Medica. Tom. 1. Obs. 1072 & 1109.

laws which regulate these diversities, remain to be investigated by future observation.

II. *Serous Effusion.*

Serous effusion in the spinal canal is generally situated under the dura mater of the spinal cord. It is probably the effect of inflammatory action, as we have good reason to believe it to be in the brain. It occurred in several of the cases already described, combined with suppuration; it is also met with unaccompanied by any other morbid appearance. The symptoms that have been observed to attend it in such cases will be illustrated by the following examples.

1. * A man, above 40 years of age, was affected with pain and weight in the lower dorsal vertebræ; the pain was acute, and occasionally extended upwards and downwards to the top and bottom of the spine. It had continued eleven days, when he was seized with paralysis of the right lower extremity, which, in three days more, was followed by suppression of urine. The pain in his back was now so acute, as to prevent him from lying down; it was soon after accompanied by difficulty of breathing, vomiting, and tonic convulsions of the trunk and superior extremities; the convulsions recurred at intervals, and continued about fifteen minutes. The left inferior extremity then became paralytic, and he died suddenly; his intellectual faculties having been entire, except during the paroxysms of convulsion. On dissection much fluid was found in the cavity of the spine. The spinal cord was sound. There was also fluid on the surface of the brain; there was none in the ventricles.

2. A child aged 12 months, whose case is very shortly related by Mr Chevalier, † after appearing to be in much pain, lost the use of the inferior extremities, and died in three days. The spinal canal was found full of bloody serum.

3. Bonetus ‡ mentions a young woman who, after suffering severely from colic, fell into paralysis. It began at the upper part of the arms, and extended gradually to the points of the fingers. Afterwards the legs became affected, and she died of gradual exhaustion, a year after the first appearance of the paralysis. Through the whole extent of the spinal cord there was a space between its dura and pia mater, full of serous fluid. There was also some effusion on the brain.

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* Morgagni de Causis et Sedibus, &c. Epist. x. Sect. 13.

† Medico-Chirurgical Trans. Vol. III. p. 105.

‡ Boneti Sepulchretum Anatomicum, Vol. I.

4. A man mentioned by Portal * had numbness of the inferior extremities, followed by paralysis of them and extensive œdema. After some time the superior extremities were affected in the same manner, and the œdema extended over the whole body. He died comatose. On *dissection* much fluid was found both in the brain and in the spinal canal. In the centre of the spinal marrow there was a canal into which a large writing quill could be introduced; it extended as far as the third dorsal vertebra.

Many cases are related by Morgagni, Bonetus, and others, in which much serum was found in the spinal canal; but as in all of them there was also considerable disease in the brain, it is not easy to determine what effect the effusion in the spine had in inducing the symptoms.

III. *Gelatinous Effusion.*

A young man, † 14 years of age, received a blow upon the spine, betwixt the shoulders, by falling backwards against the corner of a chair. The injury appeared to be slight, and no urgent symptoms followed it immediately. He only complained that, upon raising his head, he had pain striking through and across his chest, and he was observed to hold his chin down towards his breast. After four weeks, he was affected with paralytic symptoms in the legs, which increased, till, in a very short time, he lost the use of them entirely. About the same time he lost the power of retaining his feces and urine. He had continued in this state for two or three weeks, when his arms became paralytic, and he lost the power of moving his head. He died on the following day, having remained sensible to the last. His death happened about three months after receiving the injury. During the progress of the disease, he frequently complained of great oppression, and a pain darting through the chest. On *dissection* the viscera of the thorax and abdomen were found to be healthy. Some bloody serum was discharged in opening the head. The brain, in other respects, was sound. Much bloody serum was discharged from the cavity of the spine. On opening the spinal canal, a soft substance was found, four inches in length, lying between the bones and the spinal cord, at the place of the injury. When this substance was taken out and shaken in water, a great part of it was dissolved. Parts of the same substance had protruded through between the trans-

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* Cours d'Anatomie Médicale, Tom. IV. p. 115.

† London Medical Obs. and Inq. Vol. III. p. 160.

verse processes of the fourth and fifth dorsal vertebræ, and formed two tumours of similar soft pulpy matter, lying one on each side of the spine, in the hollow between the spinous and transverse processes. The largest of these was between three and four inches long, one and a half broad, and about an inch in thickness. The spinal cord and the vertebræ were sound.

IV. *Induration of the Spinal Cord.*

This is exemplified in the case of the Marquis de Causan, related by Portal, * the history of whose disorder is also remarkable, from the similarity of the symptoms to those of an affection of the brain. His complaint began with a prickling in the fingers and toes of the right side, which extended gradually upwards along the arm and leg; the parts wasted, became cold, and lost their feeling; but they retained such a degree of motion, that he could walk with the help of a crutch under the armpit of the affected side. He had continued in this state more than a year, when the left side became affected in the same manner. He was then confined to bed, and incapable of any motion, either of the trunk or extremities; the other functions continuing for some time in a healthy state. His sight and hearing were next affected, being first weakened, and gradually destroyed. In the same gradual manner he then lost his speech, and the power of swallowing. Soon after this he died. The pulse and breathing had continued natural till a short time before death, when both became remarkably slow; the pulse having been from 36 to 40 in the minute. On *dissection* the brain and all the viscera were found in the most healthy state. That part of the spinal marrow which was included in the cervical vertebræ was so hard as to have the consistence of cartilage. The membranes of this portion were very red, as if inflamed.

V. *Thickening of the Membranes.*

The Count de Lordat, † aged 35, received an injury of the neck by his coach being overturned from a high and steep bank. His head pitched against the top of the coach, and his neck was bent from left to right. He felt little inconvenience at the time, except some pain along the left side of the neck, which went off in a few days. Six months after, he had slight difficulty of articulation and weakness of the left arm. During nearly

* Cours d'Anatomie Médicale, Tom. IV. p. 116.

† London Medical Observations and Inquiries, Vol. III. p. 257.

twelve months these symptoms did not increase, and gave him little trouble. After this interval, however, they did increase; the arm became withered and useless, the speech was nearly lost, and he had involuntary convulsive motions of the whole body. After another long interval his right arm became benumbed. His breathing was oppressed. He had great difficulty in swallowing; and his body was much emaciated. His bowels were loose; his urinary functions were natural. His death happened suddenly, nearly four years after the accident; his intellectual faculties having remained entire. His lower extremities had been for a considerable time weak and unsteady, but were not paralytic, for he walked from one room to another, leaning on a man's arm, a few hours before his death. On *dissection*, the spinal marrow included in the cervical vertebræ was found remarkably firm, resisting pressure like a callous body; and the membranes of this portion were so dense, that there was great difficulty in cutting through them. The medulla oblongata appeared a third larger than natural. The pia mater was thickened, and towards the falx there was some appearance of suppuration. The ventricles were full of water. The lingual and brachial nerves at their origin were very compact, nearly tendinous. This hardness was found in the cervical nerves to be owing to the density of the membrane covering them. Another example of thickening of the membranes occurs under the following article.

VI. *Destruction of a Portion of the Spinal Cord.*

A man, whose case is related by Copeland, * had paralysis of the lower extremities, difficulty in passing his urine, obstinacy of the bowels, and a feeling of tightness across the belly, as if a broad band had been bound tightly round it. His health had been declining for more than a year; and the commencement of his complaints was ascribed to having violently strained his back in lifting a heavy weight. After being confined to bed with perfect paraplegia for three months, he died of gangrene of the nates. On *dissection*, no disease could be observed in the vertebræ. Within the lower dorsal and first lumbar vertebræ, the spinal marrow was entirely wanting for more than two inches. The membranes, which there formed an empty bag, were unusually vascular, and much thickened.

* Observations on the Symptoms and Treatment of Diseases of the Spine, page 47.

VII. *Extravasated Blood.*

1. A young lady, aged 14, whose case is related by Mr Chevalier,* had been for several days affected with pain of the head and back. The pain of the head was relieved by blisters and purgatives; the pain of the back increased, and was accompanied by a tendency to sickness on sitting up. At the end of a week there was a sudden and violent aggravation of this pain, followed by general convulsions, in which she continued between five and six hours, and then expired. On *dissection*, the spinal canal was found filled with extravasated blood in the lumbar vertebræ, which had been the seat of the pain. The brain and all the viscera were sound.

2. A miller, in lifting a heavy sack, suddenly lost the use of his lower extremities. He died in fifteen days. Extravasated blood was found, mixed with sanious matter, in the vertebral canal. The membranes were inflamed, and the nerves of the cauda equina appeared rotten, as if they had been long macerated in putrid water. †

3. A man received a violent blow on the three inferior lumbar vertebræ by a log of wood which fell upon him. He died in four hours. Extravasated blood was found in the spinal canal. The vertebræ were entire, and the spinal marrow appeared to be healthy. ‡

4. Du Vernay, whose case is briefly mentioned by Du Hamel, died of a disease which was considered as apoplectic, but in which he retained his mental faculties to the last. No disease was observed in the brain, but a great quantity of extravasated blood was found in the spinal canal. §

5. A boy, 14 years of age, received a violent jerk of his neck by a cord which was thrown over his head, as he was swinging forwards in a swing. He felt no bad effects at the time; but after some time, he was observed to be weak and inactive. He became gradually more and more inactive, and had stiffness of the neck, and difficulty in moving his head. Nine months after the accident, the weakness of his lower extremities increased to paralysis, which was speedily followed by paralysis of the arms, with suppression of urine, and obstinacy of the bowels. He had been a short time in this state, when he was seized with very violent pain in the spine; it was of short continuance; but after that time he became rapidly worse. His breathing became

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* Medico-Chirurgical Trans. Vol. 3. p. 102. † Ibid. p. 105.

‡ Morgagni de Causis et Sedibus, &c. Epist. 54. Sec. 25.

§ Du Hamel, Reg. Scient. Acad. Histor. An. 1683, Sec. 5. Cap. 2. p. 264.

quick, and was performed with an effort. This was first observed only during sleep, but afterwards continued while he was awake. After suffering from it severely for one day, he died. His death happened about ten months after the injury, and a few days after the violent attack of pain in the spine. The only morbid appearance that is mentioned as having been observed on dissection, is a great quantity of extravasated blood in the spinal canal. It lay between the bone and theca vertebralis. It was partly coagulated, and partly fluid; and appeared to have come from the upper part of the canal, about the second or third cervical vertebra. *

VIII. *Tumours and Hydatids.*

1. A tumour the size of a nutmeg, was found compressing the spinal marrow of a young woman by Harderus. There were three similar tumours in the cerebellum. The tumours were as hard as scirrhus; when they were cut into, a yellow matter could be pressed out. The case was complicated with disease of the lungs and liver. The leading symptoms were, severe headach, oppressed breathing, and, a few days before death, violent convulsions. †

2. A woman, 53 years of age, became epileptic after a fright. The fits returned every second or third day with great violence for three years. She then became comatose after one of them, and died in five days. The pituitary gland contained a cyst full of a reddish brown fluid, and hydatids of various sizes were found within the sheath of the spinal marrow, through its whole extent. ‡

Hydatids in the spinal canal are also mentioned by Portal and Frank.

IX. *Ossification of the Membranes.*

In a woman who had been epileptic for five years, and died suddenly in one of the fits, Dr Esquirols found the sheath of the spinal marrow, on its external surface, covered through its whole extent with osseous scales, from one line to two lines in diameter.

X. *Fungous Excrescence.*

A young man, aged 14, fell from a window in the second story of a house into the street. His back was much bruised, but

* Howship's Observations in Surgery & Morbid Anat. p. 115.

† Harderi Apiarium, p. 236.

‡ Memoir of Dr Esquirols to the Faculty of Medicine of Paris, Bulletin de Faculté de Médécine de Paris, Tom. V. p. 424.

without fracture or distortion. From the time of the accident he continued to walk with his body bent considerably forward, and he was very weak. About three years and a half after the accident he was seized with violent pain in the back, thighs, and legs. After some time, a tumour began to form over the lumbar vertebræ, which increased gradually till it attained a very great size; the prominent part of it was very red, and the veins on its surface extremely turgid. Repeated attacks of hemorrhage took place from the apex of the tumour. He was then seized with complete paraplegia, incontinence of urine and feces, and extreme emaciation, and at length died, gradually exhausted, about six years after the accident. On *dissection*, the tumour was found to consist of a large fungous mass, in appearance resembling the medullary substance of the brain. It took its origin from the spinal marrow, and had extended itself upwards and downwards from the third dorsal vertebra to the os coccygis. Many of the vertebræ, both dorsal and lumbar, were extensively carious on the posterior part; some of the lumbar vertebræ had nearly disappeared. There was a general softening of all the bones of the spine, and of the sacrum and ilium. *

XI.—*Compression from Diminution of the Spinal Canal.*

This is a rare occurrence. It was, however, observed by Portal. † The canal of the last dorsal and two upper lumbar vertebræ was diminished one half, and its inner surface rendered unequal by numerous small bony eminences. The inferior extremities were much wasted.

XII.—*Increased Vascularity and Turgidity of Vessels of the Spinal Cord and its Membranes.*

These appearances constitute the plethora spinalis of continental writers, to which much importance has been attached, as a cause of disease in many of the principal functions of the body. By irritation at the origin of the various spinal nerves, it has been considered as the source of many obscure affections of the thorax and abdomen; of tremors, convulsions, paralytic affections, chorea, epilepsy, and tetanus. It has also been regarded as the seat of those painful affections of the back and loins, which take place in connexion with hæmorrhoids, menstruation, gestation, abortion, and continued fever. These writers have speculated much on the changes which may take place in the determination of blood in the thoracic and abdominal viscera, so as to throw it

* New London Medical Journal for 1792.

† Cours d'Anatomie Médicale, Vol. I. p. 299.

with undue impulse on the vessels of the spinal marrow, and produce this plethora spinalis. Such altered determination they suppose to take place most frequently from violent colics, suppressed menses, from diseases of the liver, internal aneurisms, and in continued fever. * It is however extremely doubtful, whether turgidity of vessels can with propriety be considered as a cause of disease. In affections of the head, much importance was formerly attached to it, but more extensive observation has shaken our confidence in this appearance, by showing us that it occurs in a variety of cases, in which there had existed no symptom indicating disease of the brain. In no department of natural science is there a point of greater delicacy than assigning a physical cause, or considering two phenomena as connected in the manner of cause and effect. In experimental philosophy, such investigations must be conducted by numerous and varied experiments; in medicine, by extensive and cautious observation; and it cannot be denied, that a chief bane of medical science has been inattention to this necessary caution, or a practice of assigning physical causes on slight and inadequate grounds. But to return to the proper subject of this Essay, I shall conclude this part of it by a short specimen of the observations on spinal plethora.

1. A man who died of peripneumony, had been affected in the course of his illness with numbness and loss of feeling in the lower extremities. On dissection, the arteries of that part of the spinal cord which is included in the dorsal vertebræ, were found turgid with blood, as if they had been highly injected; † Portal refers to several other cases, which he explains on the same principle, in which convulsive and paralytic affections of the extremities occurred in various inflammatory diseases.

2. An infant was attacked during dentition with convulsions, which degenerated into epileptic fits. When five years and a half old, he had four or five fits every day, and became paralytic; he died at six years and a half. The spinal sheath appeared as if injected, and the medullary substance softened, and of a yellowish colour, towards the 6th and 12th dorsal vertebræ. ‡

3. A young man, aged 21, was affected with fever, and high delirium. When the delirium subsided, he had convulsive motions of the superior extremities, and soon after died comatose. On *dissection*, the vessels of the pia mater of the spinal marrow,

* See Frank, Oratio de Vertebralis Columnæ in Morbis Dignitate; Brera della Rachialgite, and Ludwig de Dolore ad Spinam Dorsi.

† Portal, Cours d'Anatomie Médicale, Tom. III. p. 219.

‡ Esquirols Bulletin de la Faculté de Médécine.

at its upper and posterior part, were found distended with blood as if they had been highly injected. This was especially remarkable about the origin of some of the spinal nerves. There was a similar appearance on the pia mater of the brain, and some serous effusion on its surface. *

The slight and imperfect outline which I have thus given of the morbid anatomy of the spinal cord, may perhaps have the effect of directing, to this interesting subject, the attention of such of the younger members of the profession as have opportunities for prosecuting it. I now go on to offer a few observations on the connexion betwixt affections of the spinal cord, and diseases or injuries of the spine.

I. *Concussion of the Spine.*

A severe blow upon the spine frequently occasions an immediate loss of power of the parts below the seat of the injury, without producing either fracture or dislocation of the vertebræ. It is such an affection that I mean to express it by the term 'Concussion of the Spine.' The extent of parts affected will depend on the seat of the injury. Paralysis of the lower extremities, and suppression of urine, are the symptoms that most frequently come under our observation. If the injury be on the upper part of the spine, there may also be paralysis of the upper extremities, difficulty of breathing, affections of the voice, &c.

In tracing the history of such cases, the following circumstances are worthy of attention.

1. Concussion of the spine may be speedily fatal without producing any morbid appearance that can be detected on dissection. Many cases of this kind are on record. Boyer † mentions a man who received an injury of the spine by falling into a ditch. He was immediately affected with complete paralysis of the lower extremities, and died in consequence of the injury; the period of his death is not mentioned. On dissection, no disease could be discovered, either in the head or in the spinal canal. Frank mentions four fatal cases of concussion of the spine, in none of which could any morbid appearance be detected on the most careful examination, either in the vertebræ or the spinal cord. It may also be fatal in a short time by inflammatory action. A remarkable case of this kind has already been quoted from Mr C. Bell (p. 45). Another, different in its

* Morgagni de Causis et Sedibus, Epist. x. § 17.

† On Diseases of the Bones, vol. II. page 101.

history, is mentioned by Boyer. A builder fell from a height of fourteen feet, and remained for some time senseless. On recovering from that situation, he was found to have lost the use of his lower extremities. He was also affected with retention of urine, an involuntary discharge of feces, and some difficulty in respiration. He died in twelve days. On dissection, a quantity of bloody serum was found in the spinal canal, the quantity of which was sufficient to fill a little more than the lower half of it.

2. Urgent symptoms may follow the injury, and, after some time, may be removed. Galen mentions a man, who, after an injury of the back, was affected with loss of speech, loss of voice, and paralysis of the lower extremities, the superior extremities remaining unaffected. After seven days, he recovered his voice and speech; and, soon after, the paralysis also disappeared. In summer 1816, I saw a man who had been employed in blowing a rock near Edinburgh. Not having retired to a sufficient distance, and standing with his back to the rock when the explosion took place, a large piece of stone struck him on the spine about the lower dorsal and upper lumbar vertebræ. He instantly fell, completely deprived of the power of the lower extremities. When I saw him, a few hours after the accident, I found him in this state, and affected with violent pain, beginning in the seat of the injury, and extending down the thighs. On the back there was an extensive swelling, which made it impossible to ascertain the state of the vertebræ. He was confined to bed for several weeks, without any power in the lower extremities, and with considerable difficulty in passing his urine; but gradually recovered; and in a few weeks more was free from complaint, except weakness and uneasiness in his back, which affected him chiefly in attempting to stoop; he is now quite well. The practice employed consisted principally of general and topical blood-letting.

In Hufeland's Journal, vol. XXI. is related the case of a man who fell from the top of a cart-load of wood, and lighted so that the weight of his body rested upon the back of his neck and shoulders, his head being bent forwards. When he recovered from the first effects of the shock, it was found that he had lost completely both feeling and motion of all the parts below the neck. He could move no part but his head. He had also suppression of urine, and obstruction of the bowels. After eight or ten days, he was affected with swelling of the limbs, and a sense of prickling, followed by severe pain, but without any power of motion. After lying several weeks in this state of perfect paralysis, he began to recover a slight degree of feeling and motion, begin-

ning in the fingers. From this time, the power of motion increased very gradually, so that, at the end of sixteen weeks, he was able to support himself in a sitting posture on a chair. After another long interval, he was able to drag himself about, supported on crutches; and at the time when the case was written, he could walk, supported by a stick, and do a little work with his hands; but he continued to have great weakness and pain of his back, the pain being chiefly at the junction of the spine with the sacrum. The progress of the functions of the bladder and the bowels in this patient is remarkable. He had first complete suppression of urine, requiring the use of the catheter for four weeks. He then recovered the power of passing it, but could not retain it—it flowed involuntarily. After some time he recovered the power of retention. The bowels were not moved without strong glysters for six weeks; after this, the stools passed involuntarily for four weeks. He then recovered the natural action.

3. It may induce permanent paralysis. This may either take place immediately, or the first effects of the injury may be recovered from, and a new diseased action take place after a considerable time. The slight nature of the first symptoms, in such cases, and the slowness of their progress, will be illustrated by the following case. Robert Bain, aged 43, about nine years ago fell from the branch of a tree, and lighted on the sacrum. He was carried home, deprived of the power of his lower extremities, and affected with pain in the lower part of the spine. He was confined to bed about twelve days, and then recovered, so as to be able to follow his usual employment. From this time, he was affected with a peculiar feeling of numbness, which was confined to the upper part of the left foot. This feeling gave him no inconvenience, but it never left him. After continuing in this state for four years, the numbness suddenly extended upwards, along the left leg and thigh, and was speedily followed by paralysis of these parts. After some time, he was seized with pain, which stretched across the lower part of the back, and into the right thigh. This was soon followed by paralysis of the right thigh and leg. He was then confined to bed, with perfect paraplegia, for about two years. About two years ago, he recovered as much power as to drag himself about, supported upon two crutches. He was in this state, without any farther improvement, when I saw him four months ago. His spine was free from distortion, but he complained of deep-seated pain, upon pressure, about the last dorsal vertebra, and the top of the sacrum. At this place, two caustic issues were inserted, and since that time he has made considerable improvement. He

can now stand without his crutches, and, though he cannot walk without them, he can raise his legs much higher in walking, and has much more power of them.

The disease in such cases is probably of the nature of chronic inflammation of the spinal cord or its membranes, perhaps inducing thickening of the membranes, or some of the other morbid conditions which have been mentioned in the former parts of this Essay. They are illustrated by several of the cases that have been related; particularly those of the Count de Lordat, and the Marquis de Causan, page 51, and the young man mentioned in page 50. Similar affections often follow slight injuries of the spine, which do not, at the time of receiving them, induce any urgent symptoms, and perhaps excite very little attention. Sometimes they take place after so long an interval, that the patient has forgotten the injury, or, if he remembers it, does not consider it as having any connexion with his disease. A man, mentioned by Mr Charles Bell, became paralytic in the lower extremities several months after an injury of the spine, occasioned by striking his back against the corner of a table. A gentleman walking in Bruntsfield Links, near Edinburgh, received a blow on the spine from a golf ball, which produced at the time no urgent symptom. After several weeks, his lower extremities became paralytic. In this state, he continued four or five months, and then recovered under the usual treatment. In other cases, the symptoms take place at an early period, and with such activity as distinctly marks inflammatory action. A young man, mentioned by Dr Jebb, received a blow on the spine from a stone. In the evening of the same day, he was seized with a shivering fit, followed by fever, which ran high through the night, but abated in the morning. He had, at the same time, pain of his stomach and his back, with contraction of the legs. This was followed by weakness of the legs, which after ten days had increased to perfect paraplegia. Issues were then inserted, and he was able to walk in three months. Every injury of the spine should be considered as deserving minute attention, and the most active means should be employed for preventing or removing inflammatory action.

II. *Disease of the Vertebræ.*

It would be superfluous to enter minutely upon this subject, which has been so amply treated of by writers of the first authority. There are, however, some circumstances relating to it which it may be proper to mention, in connexion with the subject of this Essay.

In cases of carious and distorted vertebræ, attended by para-

lysis, it is well known that the paralysis is not occasioned by the distortion, for this may exist in a great degree without paralysis, and when they have existed together, the paralysis may be removed, while the distortion remains undiminished. The original disease appears to be an inflammatory action, affecting in some cases the ligaments and membranes, in others the articulating surfaces and intervertebral cartilages, and in others, the bodies of the vertebræ. It is in the latter case, that the caries which follows the inflammatory action produces distortion; but even in this case, distortion is not an invariable consequence; for the caries may take place in such a manner as to diminish the size of the vertebra equally along its whole extent, and merely to shorten the spine, without distorting it. This is said to occur most frequently in the lumbar vertebræ. The case of a boy related by Dr Armstrong is very important. * He had involuntary discharge of urine and feces, difficult breathing, and paralysis of all the extremities, except a very imperfect degree of motion of the left arm. There was much pain and tenderness on pressure in the cervical vertebræ, but no distortion. He recovered completely in a few months, the vertebræ that had been affected, remaining in a state of anchylosis. In this case, the disease was probably confined to the articulating surfaces. Mr Copeland gives a plate, in which three of the dorsal vertebræ are represented as united by anchylosis; the intervertebral cartilages being removed, but without loss of substance in the bodies of the vertebræ. In this case, paralysis had taken place, but there was no perceptible distortion. In attending to diseases of this kind in practice, therefore, it is not sufficient to ascertain the existence or non-existence of distortion. The whole spine should be examined with care, with the view of detecting the presence of inflammatory action. This will be pointed out by pain and tenderness on pressure, or pain on passing a hot sponge over the part, in the manner recommended by Mr Copeland. Such examination should be made, when symptoms occur which have been observed to be connected with affections of the spine or spinal marrow, especially if they do not yield readily to common modes of treatment, or if they have commenced soon after injuries or sprains of the spine.

The principal symptoms of this kind are the following.—Weakness, numbness, or convulsive affections of any of the limbs—spasmodic starting of the limbs, occurring chiefly in the night—loss of the full power of the muscles, so that, though the

* Edinburgh Medical Journal, Vol. 9. p. 386.

person can walk with his usual steadiness, he cannot perform such motions as are required in running or leaping; numbness along the margin of the ribs, and a peculiar oppression and tightness across the region of the stomach; various affections of the breathing; difficulty in discharging the urine and feces, or difficulty of retaining them. Complaints such as these have sometimes been found to be connected with affections of the spine or spinal marrow, after they had been mistaken for dyspeptic or asthmatic disorders, or for diseases of the urethra or the rectum.

It is worthy of particular attention, that symptoms affecting internal organs may exist in connexion with diseases of the spine, without being attended by any affection of the limbs, or any symptom calculated to direct our attention to the spine as the seat of the disease. A girl, mentioned by Mr Copeland, had difficulty and pain in emptying the bladder, pain and tightness round the margin of the thorax, and difficult breathing. Her limbs were not affected, except that she was more easily fatigued than her companions. One of the dorsal vertebræ was found to project a little. By topical bleeding and blistering on this part, and rest in the horizontal posture, all her complaints were removed. A man, mentioned by Dr Jebb, had pain under the short ribs on both sides, cough, and irregular pulse. From the parts affected by the pain, lancinating pains extended downwards along the thighs, occasioning much uneasiness in walking, resembling the pain of rheumatism. The ninth and tenth dorsal vertebræ were protuberant, and by issues applied at that place, all his complaints were removed. The most effectual treatment of these cases in the early stages, consists of topical bleeding, issues, and perfect rest in the horizontal posture. In the more advanced stages, mercury has in a few cases been given with much advantage. A girl is mentioned by Mr C. Bell, who, after an injury of the spine, was confined to bed for eight months in the most helpless state, her back bent, and her knees drawn up. She recovered completely under a course of mercury, given her for syphilis, with which it was discovered that she had been affected from the time of the accident. In the Transactions of a Society for the improvement of Medical and Surgical Knowledge, Vol. III. is related the case of a man who had squinting, difficulty of swallowing, indistinct articulation, paralysis of the left leg and arm, and protrusion of several of the cervical vertebræ. Under a course of mercury, all his complaints disappeared; the protrusion of the vertebræ was diminished, but not entirely removed. Several cases have recovered without any re-

medy, by confinement to a horizontal posture: This occurred in Dr Armstrong's case, referred to above.

Affections of the Processus Dentatus.

1. It may be affected with caries without producing any urgent symptoms, till it suddenly give way, and prove fatal. This occurred in a young man mentioned by Mr Copeland. He had been using mercury for a disease in the tibia, and had for some time complained of stiffness and pain when he moved his head. In making a sudden turn of his head, he was seized with convulsions, and died in a few hours. On dissection, the processus dentatus was found completely detached from the vertebra, having been eroded by caries.

2. It may be dislocated by violence. Examples of this are frequent. A man, mentioned by Mr C. Bell, was making a violent effort to impel a wheelbarrow from the street upon the raised foot pavement, when the wheelbarrow went suddenly from before him, and he fell with his chin upon the curb-stone. He was dead in a few seconds. The processes dentatus was found to have crushed the spinal marrow, the ligaments having given way.

3. It appears probable that the ligaments of the processus dentatus may yield in a more gradual manner, giving rise to a course of urgent symptoms, and death after some time. Some years ago, a man was received into the Infirmary of Edinburgh, who had been accustomed to carry burdens on his left shoulder; his head, consequently, being bent to the right side. He complained of pain of the forehead and occiput, extending down the neck, pain in the throat, great difficulty, or rather impossibility of swallowing, articles taken into the œsophagus being rejected with some violence, after they had passed a short way into it. He had rigid contractions of the neck and back, resembling tetanus. His articulation was slow and difficult; the pulse 54. These complaints had begun about six weeks before, and had been increasing gradually; difficulty of swallowing was one of the first symptoms. Two days after his admission, his left side became paralytic. On the following day, the right side was affected in the same manner, and the breathing became laborious. He died in three days more, having lost the power of every motion below the neck. On dissection, it was found that the ligaments had given way on the left side of the processus dentatus, so as to allow it to compress the spinal cord. No other morbid appearance was observed in any of the viscera.

The spine may be affected with extensive caries without the existence of any symptoms that mark such a state of disease. A

man mentioned by Mr C. Bell, who had been liable to severe pain in his back, and fits of palpitation, died suddenly after a long walk. The only morbid appearance observed on dissection, was a large scrofulous abscess in the posterior mediastinum, with caries of several of the vertebræ, of such extent that the spinal marrow was exposed in several places. I saw a similar abscess in the posterior mediastinum, with caries of five or six of the vertebræ, in a girl who died of phthisis. She had complained for some time of a severe pain of the back, but her complaints in other respects did not differ from the usual symptoms of phthisis. A similar appearance in the lumbar vertebræ, with a psoas abscess, containing lb. ij. of matter, has been described by Mr Benjamin Bell.* The vertebræ were so diseased that large pieces of them were separated, and the matter was in several places in contact with the spinal marrow. The patient, a man of 40, had complained of severe pain in his back and thighs, which prevented him from raising his body into the erect posture; but there was no distortion of the spine, and no paralysis. He had considerable difficulty of breathing, but this was accounted for by a diseased state of the lungs.

Conjectures.

The various symptoms that have been observed in connexion with affections of the spinal cord and its membranes, have opened a wide field of conjecture in regard to the influence of these parts in several diseases, which have hitherto been involved in much obscurity. These conjectures are not to be altogether overlooked; but they are only to be regarded as having any value, in as far as they direct us to subjects worthy of being investigated by observation and morbid dissections. A short specimen of these conjectures shall conclude this essay.

Spasmodic Diseases.—Several writers of eminence have conceived that many spasmodic and nervous diseases have their origin in affections of the spinal marrow. Hoffman, in his essay 'De Morbis Discernendis,' directs us to distinguish betwixt epilepsy and convulsions. In the former, he says, the membranes of the brain are affected; in the latter, the membranes of the spinal marrow. In his treatise De Morbis Convulsivis, he divides convulsive affections into idiopathic and symptomatic. The former, he thinks, arise from irritation of the membranes of the spinal marrow; the latter depend upon diseases of other organs; but, by the influence of these diseases upon the spinal

* Edinburgh Medical Commentaries, Vol. 3.

marrow, the effect of them is extended over the whole body. Ludwig discusses the same doctrine more particularly, ascribing many hypochondriacal and hysterical affections to irritation at the origin of the intercostal nerves, and explaining the affections of the lungs, the larynx, &c. in such diseases, by the connexion of these nerves with the par vagum. Lieutaud holds a similar doctrine, that all convulsive diseases in which the speech is not affected, depend on diseases of the spinal marrow; and he considers tetanus as an example. The same doctrine is supported by Burserius, Fernelius, and Bilfingerus (de tetano). Portal supposes that slight pressure on the spinal marrow produces convulsion; and greater, paralysis. He thus accounts for the one passing into the other by gradual increase of the pressure.

In the present state of our knowledge, it must be confessed, that these doctrines are to be considered as little better than conjecture. If, however, we attend to the cases related in this Essay, and others that are on record, we must observe, that many diseases and injuries of the spinal marrow have been attended by symptoms resembling those of *chorea*, *tetanus*, and other convulsive diseases. Hoffman mentions a boy, who, after receiving a blow on the sacrum, was seized with a violent convulsive affection, nearly resembling tetanus, with loss of memory, difficult articulation, and delirium. The complaint continued with great severity for five days, and afterwards returned at nearly regular periods, for six months. Burserius relates the case of a man who died of tetanus, induced by exposure to cold after intoxication. On dissection, a large quantity of viscid yellow serum was found under the outer covering of the spinal marrow. Frank also relates a case of 'horrible tetanus,' which was induced by a blow upon the spine; but he gives no account of the appearances on dissection. The case related in page 63. (3.) of these observations, had also a resemblance to tetanus. In many of the cases that have been related, convulsive affections of the extremities occurred in connexion with diseases of the spinal cord; and the case quoted from Brera at page 46, bears a remarkable resemblance to CHOREA. The case from Portal, at page 47, is also deserving of attention.

Colica Pictonum.—I have already referred to the case of a woman mentioned by Bonetus, in whom paralysis followed severe colic. Extensive serous effusion was found under the membranes of the spinal cord. Privatius, as quoted by Sauvage, mentions a young woman, who, after suffering from violent gastrodynia for three hours, was attacked with palsy of all the parts below the neck. She died after two months. At an early period of the disease, a protrusion had taken place of the last

cervical vertebra. No account is given of the dissection. In this case, the pain was supposed to be symptomatic of the disease in the spinal marrow. Similar to this is the view which several Continental writers have taken of colica pictonum, considering it as a real inflammation of the spinal marrow, (rachialgia saturnina), and on this principle they have proposed to treat it by blood-letting. *

Fever.—Ballonius † ascribes many of the symptoms of fever to an affection of the spinal marrow, particularly the pain in the back, tremors of the hands, and oppression of breathing. Whatever importance we may attach to such conjectures, we have reason to believe, that, in certain malignant fevers, the spinal marrow becomes diseased. A remarkable example of this has been already given from Brera, in the young soldier mentioned in page 47. Ranchetti ‡ relates the case of a girl who died of a petechial fever, which had induced coma; on dissection, there were found evident marks of inflammation in the spinal marrow and its membranes, and a quantity of puriform matter about the cauda equina. There were also marks of inflammation in the brain and its membranes.

Epilepsy.—M. Esquirols has lately presented to the faculty of medicine at Paris, a memoir on epilepsy, in which he states, that he had examined the bodies of 15 patients who died of this disease, and found the spinal marrow affected in all the cases. The dissections, however, present no uniformity of appearance. ‖ In one there were hydatids; in another, the membranes were as if injected; in a third, the arachnoid coat of the spinal marrow was 'greyish.' In several the medullary substance was softer than natural at particular parts, and in one it was harder; in one the spinal marrow at the eleventh and twelfth dorsal vertebræ was soft, and of a light brown colour. In a young woman, in whom the paroxysms returned with menstruation, he effected a cure by repeated applications of moxa to the spine.

Hydrophobia.—M. Salin seems to have been the first who conjectured that, in this horrible disease, the spinal marrow is affected. A case related in the London Medico-Chirurgical Journal and Review (for October 1817) seems to afford some probability to this conjecture. The case was well marked, violent, and speedily fatal. The membranes of the brain were found

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* Astruc, Quæstio Medica, an morbo Colicæ Pictonum, rectius Rachialgiæ, venæsectio.

† Ballonii Consilia Medica.

‡ Ranchetti della Struttura, delle funzioni e delle Malattie della Midolla Spinali.

‖ Bulletin de la Faculté de Médécine de Paris, Tom. V.

highly vascular, with considerable serous effusion. But the greatest marks of disease were in the coverings of the pons Varolii, medulla oblongata, and upper part of the spinal marrow. These parts are said to have formed 'one crust of intense inflammation.' On the spinal marrow this crust was more intense than on any of the other parts. It is much to be regretted that the spine was not laid open, no more of the spinal marrow having been examined than could be cut out by a long slender knife carried through the foramen magnum.

Many cases of *dyspnœa* are supposed by Frank to proceed from disease at the origin of the phrenic nerves; and difficulty of swallowing and of speaking frequently depend, according to Portal, on 'engorgement' in the cervical portion of the spinal marrow.

Whether the following case ought to be considered as connected with the spinal cord, or what was the nature of it, I do not know. I have not seen another exactly resembling it. A gentleman aged 34, of a slender make, and very active habits, was affected, in summer 1815, with numbness and diminished sensibility of all the extremities. In the inferior extremities, it extended to the tops of the thighs, and sometimes affected the lower part of the abdomen; in the superior extremities, it never extended above the wrists. There was along with it a considerable diminution of muscular power. He could walk a considerable distance, but with a feeling to himself of insecurity and unsteadiness; and he could not in the smallest degree perform such motions as are required in running, leaping, or even very quick walking. He was in other respects in good health. Various remedies were employed, without benefit. Evacuations and spare diet seemed rather to increase the complaint. He had continued in the state which I have described for about two months, when he determined to try the effect of violent exercise. For this purpose, he walked as hard as he was able, five or six miles, in a warm evening, and returned home much fatigued and considerably heated. Next morning, he had severe pain in the calves of his legs, but his other complaints were much diminished, and in a few days disappeared. He has not had any return of the disorder.

The following case occurred to me after a great part of this Essay was printed. Perhaps it is worthy of some attention.

A strong healthy child, aged nearly two years, after having been oppressed and feverish for two days, was seized with violent convulsion. The first fit continued about an hour, and left her comatose, with distortion of the eyes. She had not recovered out of this state, when she had another attack of the convulsion, about two hours after the former. During the fits, and for some time after, there was violent and irregular action of the heart,

and a peculiar spasmodic action of the diaphragm. The second fit left her in a state of coma, from which she never recovered. She took drink or medicine when they were put into her mouth, but showed no other appearance of sensibility. The eye was completely insensible; the pulse very frequent. She had afterwards several slight attacks of convulsion, and one more severe a short time before death, which happened thirty-three hours after the first attack. The most active practice had been employed without benefit. On *dissection*, no disease could be detected in the brain, except an appearance of increased vascularity in the medullary substance, and slight effusion under the arachnoid coat. The brain and cerebellum being removed, there was a copious discharge of bloody serum from the spinal canal. This canal being laid open, there was found a copious deposition of colourless fluid, of a gelatinous appearance, between the spinal canal and the membranes of the spinal cord; it was most abundant in the cervical and upper part of the dorsal regions. The cavity which contained this *colourless* fluid, seemed to have no communication with the cavity of the cranium. Within the membranes of the spinal cord there remained a small quantity of the *bloody* fluid, which had flowed into the cavity of the cranium. The cord itself, and its membranes, presented no unusual appearance, except that, at the upper part, the cord appeared to be softer than usual, and very easily torn. All the viscera of the thorax and abdomen were perfectly healthy. The foramen ovale was pervious by a small opening.

VII.

Case of Fractured Skull, with a loss of a Portion of the Brain.

By E. Lazzaretto, M. D. F. R. S. and Member of the Royal College of Surgeons, London.

Mr William Newenham, midshipman, aged 14, fell from the booms into the main hold, the height of forty-five feet. He was instantly carried to the Sick Bay in a state of utter insensibility, blood flowing from his mouth and nose. On examining his head, I perceived a wound about three inches in length over the posterior superior part of the right parietal bone, where a fracture, which depressed near an inch into the brain, was evident.

A crucial excision being made, found the fracture extended obliquely upwards and downwards to a considerable extent. A small dented triangular piece of the cranium was removed, with a portion of the brain that protruded.

The elevator was introduced, by which means the depressed portion was elevated to its proper level; the scalp was brought together with adhesive straps; and a compress of lint, with double headed roller, was applied. As soon as the dented part of bone was removed from the brain, he opened his eyes, and began to call for some of his messmates. It appeared as if he had been awoke from a very sound sleep.

Pulse small and quick; Vin. ℥xviij. Hyd. subm. gr. vi. Rad. jalap. gr. x m. f. h. The ship being ordered to dock, he was removed to Haslar Hospital. In three months time he returned to the ship, quite well.

During his stay in the hospital, I went very often to see him, when his head never was affected, nor had he any fever in all the time he remained at Haslar.

H. M. S. Queen Charlotte,
11th March 1816.

VIII.

Case of Injury of the Spinal Cord. By William Mortimer, Surgeon.

The case of injury of the spinal cord stated in the Journal of October last, is so similar to one which occurred lately to myself, that I have been induced to transmit it to you; and, should it merit insertion, it may perhaps contribute a little to illustrate some particular point, either in a medical or physiological view. It is with the most extreme diffidence, however, that the case is offered for publication, as it occurred on board of ship, and was entirely treated by myself. And should this be deemed presumption in a student, it is hoped due allowances will be made, as it is done with an intention of seconding the promotion of our professional knowledge. The subject of the case was a foreign sailor.

O. A. ætatis 21, 27th April 1817.—In the afternoon fell from the rigging to the deck, supposed to be about twenty feet. Immediately on being examined, complained of excruciating pain of back, over the three lower dorsal vertebræ, which were observed to protrude rather more than usual, and of total loss of voluntary power in his lower extremities. Over the os sacrum, likewise, there was observed a soft puffy tumour, of about the size of a goose's egg, but communicating no pain upon pressure. The necks of the ribs, corresponding to the injured vertebræ, were likewise fractured. In a very short time after being put

to bed, complained of pain in his head, which had been struck in the fall, and began to talk incoherently, complaining, at the same time, of pain in his breast, his respiration being very much quickened. No injury of head, however, could be discovered. His pupils were at this time dilated, but could be made to contract by a strong light. Pulse, in about two hours after the accident, frequent, but of good strength.

Ft. venæsectio ad ℥xx ex brachio. Habt. haust. anodyn. et applicet cataplasm. aceti tumori.

28th.—At 4 A. M. complained of inability to void his urine, in consequence of which the catheter was introduced, and several pints flowed with immediate relief. Slumbered a good deal throughout the night. Blood drawn yesterday shows a buffy coat. Complains still of severe pain in back, with loss of motion in his lower extremities. Pain of head considerably diminished. Still somewhat confused. Pulse 96, of moderate strength; tongue furred.

Capt. statim olei ricini ʒx. et reptr. haust. vespere.

29th.—Opiate procured some sleep. Had his water again drawn off. As, by account, the pain of back was less severe; could permit it to be more attentively examined; when the vertebræ, before mentioned, were observed to project considerably, and, in consequence of which, the trunk was somewhat bent forwards. The tumour on the sacrum had, by this time, entirely disappeared. Much more composed to-day. Besides the incapability of moving his legs, which still remains, complains of weakness also in his arms. Purgative operated but sparingly. Pulse 80, full; tongue still furred.

Reptr. venæsectio ad ℥xiv. et capt. q. p. in solution. sulph. magnes. ℥j.

30th.—Purgative operated twice, with relief to a pain of abdomen, which occurred yesterday afternoon. Pain of back, and other complaints, the same. Got little or no rest during the night. Blood natural. Pulse 90.

Reptr. oleum ricini ut antea, et capt. pro re nata coch. j. sequent. misturæ.

℞ Spt. ammon. comp. Lavend. comp. āā ʒiij.
Tinct. opii ʒij. Spt. etheris. comp. ʒiij.
Aquæ menthæ piperitæ ℥v. M.

May 1st.—Castor oil operated briskly; tongue cleaner. Pulse 84. Pain somewhat abated. Took a little food with relish. On the whole easier. Can void his urine, with some difficulty, without the assistance of the catheter. The pain of bowels mentioned in last report, now somewhat increased upon pressure. Foveatur abdom. et contr. mistur. subinde.

4th.—Since last report nothing material had occurred. His

bowels required to be kept open with laxative medicines; and his urinary complaint remains the same. To-day, however, has pain of breast, with cough, and general uneasiness. Bowels still slow. Pulse weak. Contr. mist. Reptr. oleum ricini, et ap. emplast. vesicat. amplum pectori.

5th.—Breast relieved by the blister. Purgative operated well; otherwise the same. Contr. mistura.

9th.—Has still some cough, for which he has been using the pilula scillæ. Can still void his urine without the catheter; but his extremities still remain almost useless. Bowels again slow. Reptr. oleum.

13th.—Considerably improved. Difficulty of voiding his urine has somewhat recurred. Capt. spt. etheris nitrosi gt. xxx bis vel sæpius indies. Omitt. mist. c. opio. It was here thought proper to omit the opiate, as his bowels were inclined to be constipated, and to substitute ether alone.

18th.—Can now void his urine with less difficulty. Daily gaining strength. Can walk a little with the assistance of crutches. Weakness of arms gone; and the motion of legs improves; sleeps well without an opiate. Appetite good.

During the remainder of the voyage, which terminated in August, he continued daily to improve; but a partial weakness of his legs still remained, together with the projection of the vertebræ, which, however, about this time, was considerably less. His bowels, it may be observed, became uniformly constipated, without the assistance of purgatives. His urinary organs occasionally also became more affected, but were immediately relieved on the exhibition of anodyne draught, with ether. He was unwilling to allow blisters, or issues, to be applied to his back while at sea; but, since his arrival in Aberdeen, he has been under medical aid, and has been considerably relieved by an issue on each side of the spine. As to the general treatment of the case, it was entirely conducted on the antiphlogistic plan, supposing it to be the same with an injury of the brain, which, properly speaking, it must be allowed to be; and more particularly as the concussion with which it was originally attended, enforced this treatment.

Aberdeen.

IX.

An Account of the Fever which has lately prevailed in Newcastle-upon-Tyne, and its Neighbourhood. By HENRY EDMONDSTON, Surgeon.

As during the existence of an epidemic disease, incorrect notions are apt to get abroad respecting its character, and

the extent to which it has prevailed, it may be of use to put the medical public in possession of the leading facts in the history of the fever which lately appeared in this town and its immediate vicinity.

The situation of Newcastle does not appear to have in it any thing very remarkable. The town stands on the north bank of the Tyne, at the bottom of a nearly circular amphitheatre of moderately high undulating hills. It has a southerly aspect, the greater part being considerably elevated above the level of the river, and sloping towards the bank; the rest lying low, and adjacent to the water. On the south side, from a little above Newcastle, to the distance of six or seven miles, and about half a mile in breadth, along the border of the river, the ground is a dead flat, and, though cultivated, is so low as to be flooded during heavy autumnal rains. In every other direction, (except towards the north-east, which presents a level appearance), the surrounding country is hilly, and the surface dry. The superficial soil of the town and neighbourhood is a thick bed of tough clay. There are several clumps of trees near the town, but nothing having the appearance of a wood within several miles.

The months of *January* and *February* of the present year were uncommonly mild and dry, with only night frosts, and scarcely even the appearance of snow; the winds wholly from the N.W., W., and S.W., with very frequent heavy gales, especially during the night. The weather, upon the whole, was greatly favourable to vegetation.

During *March* there was one day with snowy showers, and another with sleet, but not a single shower of rain. The greater part of the month was warm and sunny; and the country wore a very promising appearance. The winds, with the exception of five or six days that they came from the east, were invariably from the western quarters, and blew strong.

Excepting one shower of snow, and three rainy days, the state of the weather in *April* was nearly the same as in March. The rains were refreshing to vegetation, which advanced apace. Twelve days of N., N.E., and S. E. winds occurred in the course of this month.

May was in general fair and windy to the 18th, with only occasional easterly winds. The surface of the earth appeared dry and cracked. After the 18th, the weather became wet and very cold, with strong E. and N. E. winds. Considerable injury was done to the common kinds of fruit, and, in very clayey soils, to the corn; and the fears of the husbandman had become serious, lest a continuance of such weather should prove destructive of the hopes of the year. From the effects of the extreme drought on the seeds of annual plants, and from the facilities to

the operations of agriculture, the weeds upon all ploughed lands had been very effectually destroyed.

In the beginning of *June* there fell abundance of mild rain, alternating with fair weather, though nothing particular was observable in the state of the temperature. Vegetation proceeded steadily, but rather slowly. This condition of the atmosphere suddenly gave place, on the 18th, to a thunder storm from the west, with rain, preceded and accompanied by a sultry suffocating heat. At 5 P. M. of that day the thermometer (Fahrenheit's) stood at 80° in the sun. To this succeeded dry weather and a burning sun. The thermometer, during the mornings and evenings, kept steadily between 60° and 70°. More than once during the day it was 78° in the shade. I have not been able to ascertain correctly its various points of greatest elevation. All I know is, that it preserved a very high range. *

In a moment every thing of vegetable kind burst into new life; and the progress which vegetation made during the ten days that this weather lasted was hailed with universal joy and astonishment. The heat of the sun's rays was almost wholly unrefreshed by a single shower, and their oppressive influence was felt by all. The prevailing winds, up to the 19th, had been westerly; after that they were very variable.

July came in mild; the early part of it fair. From the 13th, it continued very rainy throughout, with the winds principally from the westward, and heat below the average heat of the month.

As far as can well be traced, it would seem to have been towards the end of June, and a little after the period of the striking change in the temperature of the air, that sickness began to show itself to an extent somewhat unusual. Though the town had, during the winter and spring, been rather unhealthy in respect of fever, † yet, considering the privations to which the labouring poor were subjected, it had suffered less from febrile

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* For the first four months of the year the barometrical variation was considerable. During May, June, and July, the barometer kept very steady; with the exception of the 6th and 7th of May, that the mercury stood at 30.1 and 30.; of the 13th and 14th of June, at 28.9; and of the 15th and 16th of June at 30. The utmost range for the whole three months was between 29.1 and 29.9, and, even within this limit, the transitions were always very gradual. The mean height was, for May, 29.5; June, 29.6; July, 29.5.

† 'Feverish complaints began to appear in the autumn, (1816), and to prevail generally; and in the winter and spring, to attack persons of different ranks of society. Although in the lower classes, from obvious causes, they assumed, in many instances, a malignant typhoid form; yet, by the removal of the infected persons, the disease seemed checked in its progress, and the contagion did not extend itself in those districts from which the patients were removed.'—(Extract from Dr Headlam's letter in the Annual Report of the Institution for the Cure and Prevention of Contagious Fever in Newcastle and Gateshead, 1817.)

disease, and certainly less from other complaints, than might have been expected. Probably this may be referred to the wholesome food plenteously dealt out by the soup kitchen, and to the openness of the winter, affording facilities for employing the working classes out of doors, by means of those resources which charity had bountifully provided.

About the period just alluded to, several cases of fever having occurred among the higher classes, and being marked by symptoms of severity and danger, occasioned a good deal of alarm; at the same time the applications for admission into the Fever Hospital were unusually frequent. The cases, likewise, which fell under the observation of practitioners through the town, became on a sudden exceedingly numerous, compared with any ordinary period. * The cause for alarm was, no doubt, greatly and inconsiderately magnified; for almost every case of indisposition was placed to the account of the epidemic; but still the prevalence of febrile disease was very great. †

The fever which now engrossed so much of the public attention, though it was not accompanied with any phenomena essentially different from those which characterize the simple or continued form of fever in this country, had, nevertheless, some peculiarities, of which, together with its leading symptoms, I shall now endeavour to give you some account.

It was ushered in by rigors, languor, and great prostration of strength. Though it put on a variety of appearances calculated to perplex, in general the most strongly marked symptoms were vertigo and pain of the head, chiefly referred to the occiput, and, more particularly, to the back of the neck; sometimes to the centre of the brain, with a pulsating rending sensation, as if the skull was ready to split. The eye, however, was seldom acutely sensible either to light or motion, nor, unless in a few very bad cases, had it any muddy or bloodshot appearance.

In some the mental functions were disordered, stupor and delirium occurring early, and continuing through the disease, where, from the state of the other symptoms, they were hardly

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* The town is, for the most part, but little visited with disease of any kind from the middle of June to the end of September.

† Some idea of the sudden and simultaneous prevalence of this epidemic may be gathered from the following particulars.

From the 28th of May 1816, to the 28th of May 1817, 22 cases of fever had been received into the Fever Hospital. On the latter day one case was admitted. No more presented till the 28th June, on which day, the first case for the summer was admitted, and between that day and the 5th of August, (about five weeks), 45 cases were received, and, of these, 27 had presented so early as the 19th of July. It is worthy of remark, that, for the ten years previous to 1816, the annual admissions into this hospital have never averaged more than between 7 and 8.

to have been looked for. But, in general, the sensorium was but little discomposed, and, in many, it was not in the least affected. In some cases delirium commenced with the convalescence of the patient, and continued for a considerable time.

The pulse in the early stages was, upon the whole, not so much accelerated as the apparent degree of indisposition should have indicated. As the disease advanced, its increased frequency was observable; but, in a great majority of cases, it preserved firmness and regularity, without any of the smallness so common in what is termed typhus.

In several patients deafness supervened to a great degree towards the close of the fever; but it seemed to be that kind of it which I believe is reckoned rather favourable; at least, it was quite distinct from comatose dulness; for it was most frequently present in those whose other perceptions were as perfect as usual.

The tongue was in many instances white and furred, but rarely exhibited, even in a protracted disease, the brownish appearance which, with the dark scaly sordes on the teeth and gums, is so often seen in typhus, and in the more aggravated forms of simple fever. In some the tongue remained quite clean and moist to the last, even where delirium was present, for the space of three weeks or a month. During incipient convalescence, foulness of the tongue was often the forerunner of a relapse; and these relapses were serious.

The taste was always unpleasant, and the thirst extremely urgent.

The stomach and bowels were often the organs that suffered most; nausea, retching, and diarrhœa, being the principal symptoms from the commencement. In many the digestive powers were very inactive, and the evacuations produced by medicines highly offensive, while in others the bilious vomiting and purging were such as to show a tendency to cholera.

The parching dryness of the skin was often disagreeably pungent to the feel; but in no small proportion of cases the whole surface was bedewed, even before artificial means had been used, with profuse, clammy, sometimes watery, sweats, accompanied often with sensations of chilness, and scarcely ever followed by any abatement of the febrile heat and excitement.

The urine was clear and high-coloured, having that tinge which is supposed to imply the presence of much bile, and seldom deposited any sediment.

In all, the failure of strength and the loss of flesh were conspicuous, even when the complaint was mild and of short duration. Children, and people in the vigour of life and [illegible] were almost exclusively the subjects of this fever; and [illegible] much more than males. The proportion of female[illegible]

attacked by the fever, was as three to two. The women and children, taken together, were to the men nearly as two to one, in the Fever Hospital; and in private practice these excesses were fully maintained. With many it showed a disposition to remit, particularly among children.

One circumstance, which served in some measure to characterize it, was the immediate relief of the more urgent symptoms produced by the remedies. Yet, though the force of the disease was by this means moderated, there was no effectual interruption given to the progress of the morbid action.

Another peculiarity, perhaps, deserving of notice, was the great length of time (a fortnight, three weeks, nay, in a few cases, even an entire month) during which the disorder had manifest hold of the constitution before that degree of indisposition was induced which rendered it necessary for the patients to confine themselves to bed.

The febrile state varied from five or six days, to four and five weeks. In a great majority of cases it continued from one to three weeks. Neither the critical days, nor the crisis itself, were very perceptible. Sometimes an apparent crisis took place about the fourteenth or sixteenth day, but it was very generally followed by a relapse.

That which served probably as much as any thing else to distinguish it, was the lingering and irregular convalescence, and this sometimes to such a degree, that it might be questioned whether the convalescence was such, strictly so called, or the alteration in the patient arose from the remittent form which the disease seemed inclined to assume.

The mortality has not been great, though it is difficult to ascertain precisely its degree. Of forty-three cases admitted into the Fever Hospital, from the 28th June to the 5th August, seven died. But of these not more than two could be said to have fallen regular victims of fever, except under circumstances in some measure independent of the disease, and evidently contributing to the fatal event; among which may be noticed previous neglect, the advanced stage of the disease at the time of admission, and a diseased state of the constitution prior to attack.

A great proportion of the fatal cases occurred in women. With them also the disease was much more severe and protracted than with men. *

As far as I have been able to learn, the general method of treatment was depletory; modified, of course, according to the

* The whole number of women who died in the Fever Hospital was to the men as two to one. In private practice the same, and in some instances even a higher ratio obtained. The first seven who died in the Fever Hospital were women. Similar results were observed in the practice of the Dispensary.

varying aspect and period of the disorder; nor am I aware of any uniform plan of attacking and cutting short the fever having been systematically pursued by any practitioner. Indeed, from the diversified features which it assumed, any thing of this kind seemed impracticable.

In a few instances, a full bleeding from the arm produced the happiest effects, not merely moderating the violence, but almost subduing the power of the disease, and, by favouring the exhibition of other remedies, leading to a speedy and rapid convalescence. It could be practised, however, with advantage only when the patient was young and strong, and the pain of the head intense, or symptoms of congestion in some other important organ were urgent. In cases somewhat differently circumstanced, it did not materially expedite recovery. In most cases, leeches applied to the forehead and temples were sufficient for the purpose of removing the pain of the head; and, where they could not be procured, a blister on the nape of the neck was found a valuable substitute.

Where there was constipation at the commencement, a smart cathartic (generally composed of a full dose of calomel, jalap, and antimonial powder), followed up by gentle diaphoretics, was always given, and the invariable effect was a diminution of the general excitement; though not unfrequently the exhibition of these remedies was followed by griping dysenteric pains and troublesome diarrhœa, which it seemed not quite advisable to continue, yet unsafe to check. In some there was a pretty uniform tendency, from the first, to gentle diarrhœa, the keeping up of which artificially was the principal indication of cure.

Notwithstanding the open state of the skin so frequently observable, it was by no means easy to bring out a copious satisfactory perspiration; nor did a resolution of the diseased action ever appear to be effected through this channel.

I believe emetics were not much given, even at the outset, unless where nausea, retching, and oppression at the præcordia demanded the immediate unloading of the stomach. Sometimes, during the progress of the fever, or incipient convalescence, when the foulness of the tongue appeared to threaten an exacerbation or relapse, the effect was prevented by an emetic.

There was often present a teazing cough; but the pectoral symptoms seldom proceeded to such a height as to interfere with the general mode of treatment, and still seldomer required very powerful measures for their removal.

In those cases where the heat of the skin was either occasionally or permanently great, the cold affusion (when pectoral symptoms did not forbid its use) was highly beneficial in checking the fever, or was, on its abatement, very serviceable

in alleviating the symptoms of delirium, dry skin, vertigo, and restlessness. Where the full effect of this powerful agent was not indicated, sponging the body with cold water, or with vinegar and water, sometimes made tepid, according to the state and temperature of the patient's body, was found extremely useful.

Bark was but very little administered at any period in this fever. Whether this arose from the disrepute into which this once celebrated remedy seems now to be falling, or from an idea that, in the present epidemic, its employment was not called for, I cannot well determine. For myself I should say, that, notwithstanding remissions frequently occurred, they were of too incomplete a character to afford a favourable occasion for administering the bark.

In two cases, symptoms of pure scorbutus showed themselves. These were suddenly induced, and as suddenly vanished on the yielding of the other symptoms, and by the aid of the citric acid. In one of these cases, leeches and purgatives were freely employed.

Involuntary stools and urine were of very frequent occurrence, with much stupor and insensibility; yet recovery was not less rapid than where no such usually deadly symptoms were observed.

Several cases occurred of very profuse discharges of blood *per anum*. In a very few this symptom appeared to be critical and salutary; in the others it was the immediate precursor of death.

Black vomiting took place in one fatal case in the Fever Hospital. Two or three seemed to terminate fatally by effusion into the chest. One case exhibited an eruption resembling measles. Death was preceded by the disappearance of this eruption, and great dyspnœa. In another case of a similar eruption, recovery was attended with the peeling off of the whole cuticle of the body.

Petechiæ were scarcely seen, though there were a few cases in which the slightest scratch of the skin became inflamed and ulcerated.

Epistaxis occurred very often, where the delirium, headach, and flushed face were considerable, and always with marked relief of these symptoms.

Subsultus tendinum was but little observed, even in the very worst cases; and in the Fever Hospital, the fatally ominous symptom of picking the bed-clothes was seen in one case only. I have not learnt that it was met with in private practice more than once.

With the exception of one case, in which the fever was supposed to terminate in hydrocephalus, and another in an affec-

tion of the liver, it did not appear to leave behind it any organic obstructions.

The entire duration of the epidemic, or rather what may be more properly called its period of greatest prevalence, did not greatly exceed six weeks, according to the Fever Hospital and Dispensary, which correspond as nearly as may be with the results in private practice. About the beginning of August the fever began to decline. However, the numbers in the Fever Hospital kept steady; but that was more owing to the protracted convalescence of those who had already undergone the disease, than from the accumulation of fresh cases.

The town at present, (5th August), though very much infested with fever, compared with what it has been for the last ten years, yet, compared with what it has recently been, may be considered as gradually resuming its usual state of health in regard to fever.

With respect to the character of this epidemic, it may suffice to remark in general,—

That it made its appearance to a great extent, during weather, and at a season of the year, when contagious fever is supposed least to prevail.

It was preceded by a very abrupt, and, for this climate, a very violent change in the condition and temperature of the atmosphere.

Although there have been a few families in which two and three members have been ill, yet the invasion of the disorder in those individuals was in great measure simultaneous. The same, with a few exceptions, may be said of the whole numbers attacked through the town.

The fever has been very little known among those classes of the inhabitants, and in those parts of the town, in which infectious fever generally rage most extensively, namely, the labouring poor, and the low, filthy, confined situations.

The ordinary causes which favour the development and spreading of contagious fever, had been present to a greater degree and extent, for months previous to the breaking out of this epidemic, without being followed by much sickness.

Many of the earlier cases occurred chiefly among the higher ranks of life, and among servants, in the airy parts of the town; the individuals quite detached, and apparently having had no previous communication.

With one or two exceptions, none of the immediate attendants of the sick took the fever.

Suppressed perspiration, sudden and great alternations of temperature, fatigue, exertion under the oppressive heat; in a word,

excess or irregularity of some sort, could in most instances be clearly enough traced, or more confidently assigned by the patients themselves. *

It is well understood, that circumstances in the state of the atmosphere, and of the human body, analogous to those just alluded to, are held to be competent to the generating of febrile disease.

What may be called the period of active agency of the epidemic, would seem to have been too limited, easily to admit of the disease having possessed any propagative energy, as were also its subsequent ravages, considering the great numbers seized in a manner all at once, and the numerous sources of infection thence generated.

The fever has not been heard of to any great extent (I speak under correction) in the neighbouring towns of Shields, Sunderland, Durham, &c. all of them within fifteen miles' distance, and the intercourse constant. Nay, it has scarcely appeared in Gateshead, situated on the south bank of the Tyne, directly opposite to Newcastle; of which Gateshead forms an appendage.

And to conclude, the impression made upon the minds of most of the medical practitioners, inclines them to the opinion, that though during the late prevalence of febrile disease, there have occurred many cases of genuine contagious typhus, yet that the epidemic in question did not possess any contagious property.

While I give this statement, I am fully aware of the highly equivocal character of all evidence of the contagious, or non-contagious nature of epidemic fevers, and that most of the circumstances I have enumerated, may to some admit of a construction the reverse of that which has been put upon them.

Neither is it to be denied, that some professional men here are more than half disposed to look upon the disease as having been contagious all along. I shall not weary the reader by going into the respective merits of these opinions; but proceed to observe, that, whatever might be the individual views of practi-

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* The Newcastle races happened in the week of sultry weather in the end of June. It has been suggested, and with some appearance of reason, that the intemperance and exposure then indulged in, may with many have had no small share in disposing to, or even in producing, the fever. How far, on the other hand, the hilarity of such a scene, the temporary release from the pressure of privation, and the agreeable recreation in the open air, might counterbalance the influence of these causes, is a matter that may admit of some question

tioners, they never influenced their conduct in the management of the patient; for as, on such occasions, it is next to impossible to draw any accurate line of distinction between what is contagious and what is not, they all held it prudent to enjoin as complete a separation of the sick from the healthy as could conveniently be effected. The poorer patients, whenever it could be done, were removed to the Fever Hospital, and, in conformity to the excellent regulations of that establishment, the houses whence the sick had been conveyed were whitewashed and fumigated, and the bed clothes and personal apparel of the patients washed.

Such, then, may be regarded as a statement of the more prominent circumstances connected with the rise, progress, treatment, and character of this epidemic, as they presented themselves to my observation, and to the still more extended observation of those who have obligingly favoured me with their thoughts on the subject. I beg permission to add, that these facts are not here offered as possessing any novelty or importance; for similar phenomena have occasionally occurred, and similar methods of treatment have been followed, in other epidemic fevers of this country. My only reason for dwelling on them at greater length than may perhaps seem necessary, was a wish to afford others the means of comparing the circumstances with those which have been observed elsewhere.

I may remark, before finishing, that the deviations from the ordinary course, which might be said to distinguish the epidemic, altogether consisted in certain anomalous combinations of the symptoms, and in the unequal ratio which they bore to each other, even in the same individual.

October 15th.—The foregoing remarks were intended to have been sent immediately after they were written, but they have been accidentally delayed, which gives me an opportunity of subjoining a few additional notices.

From the beginning till near the end of August, the number of new cases of fever diminished considerably, particularly in private practice, so as to promise the entire disappearance of the disease. However, about the latter period, the numbers rather increased, especially on the Dispensary lists, for reasons which admit of easy explanation; and though they shortly after again underwent a reduction, fresh cases have since continued to occur, with greater steadiness and regularity than before, so that the town is still far from enjoying its usual exemption from fever. Several members of some of those families in which fever first made its appearance, have been seized in succession; and the cases which have more recently occurred, have exhibited

more of what is denominated the typhoid form than on the first breaking out of fever through the town. In by much the greater proportion of families, the disease has not spread. It has been confined to the same classes of people that first suffered, and has scarcely yet made its appearance in those districts which are allowed to be the legitimate seats of contagious fever.

A few scattered cases have appeared in Gateshead, and in several hamlets and villages of this neighbourhood. It is now said to be at Hexham (20 miles off), and to have been traced thither from Newcastle. We learn that fever prevailed much at Blyth, 14 miles, and at Newbiggin, 20 miles distant from Newcastle, along the sea coast, in the early part of the summer, before it showed itself to any great extent here. What connexion (if any) may subsist among these facts, I regret that I have not had an opportunity of ascertaining. It is likewise proper to mention, that the views of many practitioners here have undergone some alteration on the subject, and that they are now disposed to think that contagious fever has been present to a very considerable extent.

From all these intimations, though there may be good grounds for qualifying, I do not for my own part see sufficient reasons for departing from, the conclusion already drawn respecting our summer epidemic.

December 3d.—Circumstances having again prevented my forwarding these remarks, I shall take the liberty of adding, that, since last report, the fever has continued to subside, as will be seen more at large in the statements underneath. * It has

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* The admissions into the Fever Hospital have been from the 28th of

June to the 31st July,	-	36
August		17
September		15
October		13
November		10
		91, the whole number to this date.

The annual number of cases of fever on the Dispensary books for the last five years is eight. The numbers entered since May of the present year are as follows—

June	8
July	57
August	41
September	51
October	44
November	22
Making a total of	223 in six months.

gone on showing itself in different parts of the town, without fixing in any one district.

A few cases have lately been observed about the quay side, and in the less airy quarters; but several of these have been sailors, who were ill at the time of their arrival. From the records of the Dispensary, it appears that, in by much the greater proportion of families, the fever has not spread, even where the sick could not be removed to the Fever Hospital. This coincides with what was stated in a former part of these observations, and is corroborated by what has since been met with in private practice.

The rumour respecting the fever being at Hexham, I find is not supported to the full extent. Mr Thomas Jefferson, a surgeon of that place, informs me in a letter of date December 1st, that "several cases of fever have occurred bearing the characters of typhus; but the disease never appeared to deserve the character of a severe epidemic. A few cases had inflammatory symptoms in the chest and abdomen, which yielded to small topical and general blood-letting; the other cases yielded to the ordinary treatment." He attributes the disease to poverty, privations, and the wetness of the season.

Mr Robson, surgeon in Blyth, in a letter dated also on the 1st December, gives the following particulars—"We have had a great deal of contagious fever prevailing in the neighbourhood, which I conceive to be *typhus*. It made its appearance in Newbiggin, a fishing town north of this place, on the 30th of November 1816, and continued till last August. It was brought by a young man, a sailor, who was sent home from *Leith* to Newbiggin to his friends. As he got better, the other part of the family got infected. I cannot exactly state the number of patients I had under my care, (upwards of a hundred); three died. It generally came on with frequent rigors, followed by accessions of heat, and with constant headach; tongue with a brown fur, with great thirst."

I understand from Dr Armstrong, that in Sunderland "there have been no more febrile diseases than usual, within the last six months."

I shall close this lengthened detail with a few particulars of the weather.

August was a very wet month, with but little sunshine; the weather, however, was mild, and, upon the whole, even warm; wind much from the S. W.; more, certainly, from some point to the north, than has been remembered for many years. The barometer very steady.

In *September* the weather was generally clear, and often

windy; little rain, except for two or three days; the wind much in the S. S. E. and S. W. till the last three days, when it was wholly from the west; the barometer rather variable.

The weather was very broken and unsettled in *October*, and colder than usual, with a good deal of rain; the wind variable, but mostly from the N. N. E., E., and S. E. till the 28th, from which, inclusive, it was from the S. S. W. and W.; the barometrical range much wider.

November was remarkably warm, with a moderate quantity of rain. What appears to be very singular is, that the nights were very often warmer than the days. The thermometer stood one night at 52° at 10 o'clock, and frequently at 48°, 49°, and 50°, at the same hour; while, during the morning and middle of the day, it did not mount above 42° and 45°. The variation of the barometer much more circumscribed than in October; wind from some point to the south, and very seldom northerly; frequently from the W. and S. W.

December 4, 1817,
Newcastle-upon-Tyne.

X.

Observations on the Treatment of Syphilis without Mercury. By John Thomson, M. D., Professor of Surgery to the Royal College of Surgeons, Edinburgh, &c. and Surgeon to the Forces. Communicated to Dr Duncan, Junior.

Dear Sir,—I regret that I have been prevented, by various avocations, from fulfilling my promise of giving you an account of the observations which, for a series of years, I have had occasion to make respecting the treatment of syphilis without mercury. But if the following brief statement of the general results of these observations shall appear to you worthy of a place in your Journal, you will oblige me by inserting it.

I was led, many years ago, by a careful investigation into the history of syphilis, and by having had occasion to see a considerable number of anomalous and untractable cases, treated by full, but ineffectual courses of mercury, to doubt the justness of the opinion so generally received, that mercury, in some one or other of its forms, is the only safe, effectual, and specific remedy for the cure of that disease. These doubts were much increased by the discussions to which the various communications made to the late Dr Beddoes gave rise, respecting the efficacy of nitric acid

in venereal complaints; by the appearance of Mr Abernethy's valuable publication on the diseases resembling syphilis; and by conversations, at different times, with my friend Mr Pearson of the Lock Hospital, as well as by the perusal of notes taken from his excellent lectures upon that subject. In the uncertainty in which I was respecting the proper diagnostic marks of constitutional syphilis, I resolved, in the treatment of those cases that should come under my care, in which mercury had had a full trial, and particularly in which it seemed to have produced injurious effects, to abstain altogether from prescribing that remedy, till a trial should be made of some of the other remedies which had at different times acquired reputation for the cure of venereal complaints. That which I made choice of was the simple decoction of sarsaparilla; and, after a very ample employment of this substance, I feel myself compelled to adopt the opinions of some of the earlier writers on the venereal disease, with regard to the singular efficacy of this root in curing symptoms which have usually been reputed syphilitic; and also, with a few exceptions, to believe in the justness of the conclusions to which the late Sir William Fordyce had been led from an extensive trial of sarsaparilla. I have employed this remedy in every form of the disease, which either remains after, or succeeds to, the use of mercury; and have had the satisfaction to observe all manner of cutaneous eruptions and ulcerations, ulcerations of the throat, pains and swellings of the joints and ligaments, and nodes of the bones, gradually disappear under its mild operation, when its use was duly persisted in, and was, at the same time, accompanied by attention to regimen, and the proper local treatment. In particular cases, the recovery has been tedious; and it has been necessary to have recourse to the use of the sarsaparilla a second, or even a third time. I may however remark, that I have never had occasion to see the venereal diseases in which it was employed make those rapid and alarming advances which we see so often occur in them during the use of mercury; nor am I aware of any permanently injurious effects which the sarsaparilla produces, either immediately or remotely, upon the constitution.

Various circumstances induce me to believe, that sarsaparilla has formed a principal ingredient in the composition of the greater number of the secret remedies which have been sold in every country of Europe for the cure of syphilis, and which have, I believe, been found chiefly useful in those cases in which that disease has appeared to remain in the constitution after the full and repeated use of mercury. I find the sarsaparilla mentioned as an ingredient in most of the antivenereal prescriptions

of the irregular practitioners, and, in particular, in those of Sintelaer, the vender of a secret remedy for the cure of the venereal disease, who practised in London about the beginning of the last century, and who appears to me to have anticipated some of the observations and discoveries upon this subject which have been made in our times. In carrying on the observations to which I have alluded, it was with no small satisfaction that I accidentally found, about six years ago, the work of this practitioner, in the library of my friend Dr Stedman of Kinross, entitled, 'The Scourge of Venus and Mercury, represented in a treatise of the venereal disease, giving a succinct, but most exact account of the nature, causes, signs, degrees, and symptoms of that dreadful distemper, and the fatal consequences arising from mercurial cures, with the several ways of taking that infection,' &c.—'Unto which is added, the true way of curing not only the consummate and inveterate, but also the *mercurial pox*, found to be more dangerous than the pox itself. The whole illustrated by many authentic and unquestionable accounts of cures performed after the patients were reduced to the very brink of the grave by mercurial operations, the like not as yet extant.' By J. Sintelaer, practitioner in physic, London, 1709.

That I have not mistaken the nature, nor overrated the value of the hints contained in this book, and which tended to confirm me in the soundness of the conclusions to which I had been previously led regarding the treatment of venereal diseases without mercury, will appear, I trust, from the following extract, selected from among many passages of a similar import.

'When, after the imperfect or preposterous cure of a consummated pox, by mercurial salivations, or sometimes also by over violent, and too frequent mercurial vomitives, there appear such symptoms as are most commonly observed in the most inveterate or radicated pox, you may then rationally conclude, that they are not so much the remnants of the former pox, but rather *the symptoms of a disease of its own kind*, being occasioned either altogether by the natural malignity and virulency of the mercurial preparations, by which these salivations or violent vomitings were raised, or at least by the intermixture of the mercury with some small remnants of the pocky ferment, which otherwise might either have been expelled or subdued by the strength of nature; but its virulency being now exalted by the malignity of the mercury, it appears attended with much more violent, and much more dangerous symptoms after the mercurial cure, than it did before.

'Hence it is that a certain modern author is forced to con-

fess, that he believes that there are more fallen noses, corroded palates, and rotten bones, occasioned by the mercury, than by the pox.

'So that if you observe, that after the cure of the pox by mercurial medicines, either some fresh pocky symptoms, such as did not appear before, but especially such as make their appearance in the glandulous and bony parts, as ulcers in the mouth and palate, or the roof of the mouth, and violent and continual pain in the bones; I say, if you find these symptoms appear after a cure of the pox by mercury, when nothing of it was observed before; or if you find these, and other such like symptoms which discovered themselves before the said cure, become afterward more violent and frequent, you may then be fully convinced, that they owe their origin chiefly to the malignity of the mercury, or at least to its intermixture with some slight remnants of the old pocky ferment; whence it is, that we have given it the name of a *mercurial* or *symptomatical pox.*'

In the want of an accurate diagnostic symptom between syphilitic chancre and ordinary ulceration, and often also from the situation of a patient, upon his first applying to me, rendering it improper for him to undergo a course of mercury, I had for many years frequently been induced to treat primary venereal sores with simple local remedies. The great number of these sores which disappeared under this treatment, some with, and others without, the formation of bubo, and many of them possessing all the characters usually attributed to syphilitic chancre, rendered me extremely desirous to ascertain whether there be indeed any primary venereal sores which are not capable of being healed without the use of mercury. An opportunity for bringing this matter to the test of public experiment, has been afforded me in the practice of the Consolidated Depôt Hospital in Edinburgh Castle, to the charge of which, through the kindness of the Director General of the Army Medical Department, I was appointed in March 1816. In this hospital, open to the inspection of all the medical military officers attending the University, I have, since that period, carefully abstained from the employment of mercury, not only in the treatment of secondary, but also in that of the primary symptoms of syphilis, and have found that chancre and bubo have in every instance disappeared under an antiphlogistic regimen, rest in the horizontal position, and mild local applications, as speedily as I had ever seen them disappear in similar cases in which mercury was employed. In the management of these cases, I have had the able assistance of Hospital Mate Macgibbon, and of Assistant Staff-Surgeon Blackadder. The mild manner in which both

chancres and suppurating buboes were observed to heal under this treatment in the Depôt Hospital, induced the late Mr Hicks to follow a similar practice in the treatment of the men affected with syphilis of the 92d regiment, at that time stationed in Edinburgh Castle. The results which this gentleman obtained in the cases so treated, and which I had an opportunity of seeing until the regiment marched for Ireland, in April 1817, were precisely similar to those which I had obtained in the Depôt Hospital.

In the course of reporting the cases in these hospitals for my clinical lectures on military medicine, I was surprised to be informed, in February 1817, by Mr Kenning, resident surgeon of the Ordnance Medical Department, that a practice similar to that which I was following in syphilitic cases had been employed for a considerable period (I have reason to believe even some time previously to my appointment to the Depôt Hospital) by Mr Rose, surgeon of the Coldstream Guards; and I was happy to learn, that the results of his practice were similar to mine.

Soon after this period, the 88th regiment arriving here from France to replace the 92d, I found, that, in consequence of communications from London, the medical officers of this regiment had begun a short time before to treat all their syphilitic cases without mercury; and since that time, up to the present date, I have had an opportunity of seeing a very great number of syphilitic cases in this regiment treated in this manner, with uniform success, under the judicious management of Surgeon Johnston, and Assistant Surgeon Bartlett.

In private practice, I have followed a similar mode of treatment in a great number of syphilitic cases, many of which were seen by my friend Mr Turner, who for several years lived with me, and assisted me in my practice; and in treating these cases, I have obtained results in all respects similar to those stated to have taken place in the military hopitals.

Bubo in one or both groins, sometimes suppurating, and in other instances disappearing by resolution, has occurred in about one fourth of those affected with chancre, but in none of the chancres or buboes which I have seen treated without mercury, has any disposition to gangrenous inflammation, or to phagedenic ulceration, ever manifested itself,—occurrences which are so common in the treatment of these affections, under even the most careful employment of mercury. In a number of the cases of chancre, a hard tubercle, accompanied with discoloration of the skin, has been observed to remain for a considerable time after cicatrization; and this part has frequently shown a disposition to become ulcerated, when it has either been neglected or has been irritated.

A sufficient length of time has not yet elapsed to enable us to ascertain in how many cases constitutional affections will occur, or what all the constitutional affections may be among those who have been cured of the primary symptoms of syphilis without the use of mercury. Of the cases which I have seen, the number in which constitutional symptoms have supervened, has not exceeded one in ten; and the only forms of these symptoms which have presented themselves, are ulcerations of the throat, and cutaneous eruptions, sometimes accompanied by inflammation of the eyes. The ulcerations of the throat have been few in number, and generally accompanied with cutaneous eruption; they have had an aphthous appearance, and have sometimes been attended with aphthæ of the inside of the mouth, enlargement of the tonsils, and swelling of the lymphatic glands of the neck. The cutaneous affections which have occurred have been, in several cases, a reddish mottled efflorescence of the skin, resembling roseola, in others, papular, pustular, scaly or tubercular eruptions. These secondary symptoms have usually appeared in cases where the primary sores had been long in healing, and where they had left behind them indurated cicatrices. The time at which they have generally occurred, has varied from four to twelve weeks after the appearance of the primary ulcer. The affections of the throat have been slight in comparison with those which usually take place in venereal cases after the use of mercury. The cutaneous eruptions have been chronic in their nature, and have all, as well as the sore throats and inflammations of the eye, gradually, though sometimes slowly, disappeared without the use of mercury, and without seeming to have left any injurious effects behind them. I am inclined to believe, that, if mercury had been employed, the cutaneous affections, in several of these cases, might have been cured in a shorter period of time than that in which they have disappeared; but whether, in accelerating the cure of the cutaneous eruption, that remedy might not have excited other constitutional affections, is a point which future experience can alone determine.

The secondary symptoms of syphilis, I may remark, have not appeared to me to be more frequent in their occurrence in those patients who have been treated without mercury, than in those by whom that remedy has been freely employed. Hitherto I have had no opportunity of observing among patients treated for the primary symptoms without mercury, any of those deep or foul ulcers of the skin, of the throat, of the mouth and nose, or of the painful affections of the bones, which are stated by every writer on syphilis, as the genuine products of that disease. Among the very great number of such affections which have

presented themselves to my observation, one, or more frequently more than one, course of mercury had been employed.

The results I have now stated to you are satisfactory, I conceive, in so far as they seem to establish the possibility of every symptom of syphilis being cured without the use of mercury, and by this to lead to applications of the utmost importance in practice.

They also have a confirmation in, while they enable us to explain, the numerous, and apparently contradictory, statements which have at different times been given with regard to the efficacy of the various remedies which have been extolled for the cure of syphilis, from the first appearance of that disease in Europe to the present day.

Indeed, all the observations which I have had an opportunity of making upon the symptoms and progress of syphilis, tend to confirm me in an opinion which I have for several years taught in my lectures, that it is a chronic and not an acute disease; and that the rapid progress which it seems sometimes to make, and the exasperated symptoms which it exhibits, are not the genuine or necessary effects of syphilis, but may, in most instances, be traced to intemperance, to neglect, or to improper treatment.

What then, it may be asked, is the practical conclusion to which these views lead in the treatment of syphilis? Are we to abandon the use of mercury,—to reject it as a remedy which is unnecessary, and that may be injurious? and if mercury be laid aside, must we employ other remedies, such as guiacum, sarsaparilla, or nitric acid, in its place? or may we safely trust the cure of this disease to the powers of Nature alone?

Many years, I conceive, must elapse, before a satisfactory answer can be given to these questions. To be able to answer them, it must be ascertained, whether syphilis undergoes a spontaneous cure in all the forms in which it appears; and upon this being established, it must be also ascertained, whether by any, and by what means of treatment, the progress of this spontaneous cure may be accelerated or retarded.

The effect of mercury in accelerating the cure of syphilis seems to be too well established to admit of its being called in question; but in how far the use of this substance may or may not give a tendency to the recurrence of the disease in a more aggravated form, or may induce diseases different from, but resembling those described as arising from syphilis, are points still far from being sufficiently determined. The belief that syphilis can be cured safely and ultimately only by the use of mercury, is so deeply rooted in the minds of the public, and the prejudices of practitioners are so much biassed in favour of the em-

ployment of that remedy for the cure of syphilis, that we cannot expect that its use, whether it shall be ultimately found to be necessary or not, will be generally given up, at least for a long time to come, in the private practice of our profession.

The practice however of treating venereal cases without the use of mercury, has now become very general in the British military hospitals, both at home and in France; and by a communication which I have had the pleasure to receive, at the desire of Sir James M'Grigor, from my friend Dr Theodore Gordon, I have reason to believe, that the results obtained do not differ materially from those which I have described. These results will soon, I hope, be communicated to the public; and much valuable information may be expected from the medical officers of the army who have devoted their attention to this subject, and whose situation affords them so much better opportunities than medical practitioners enjoy in the practice of civil life, of ascertaining whatever relates to the natural history or treatment of syphilis.

The following table of the cases which have been treated without mercury in the military hospitals here, since March 1816, exhibits a summary view of some of the results which have been detailed. I remain, Dear Sir, Very truly your's,

JOHN THOMSON, M. D.

5, George Street,
8th December 1817.

Abstract of the Cases of Primary Venereal Symptoms treated without the use of Mercury in the Consolidated Depôt Hospital, and in the Regimental Hospitals of the 92d and 88th Regiments in Edinburgh Castle, from March 1816 *to December* 1817.

Number of cases of primary symptoms treated - -		155
Of these had buboes, a considerable proportion of which suppurated - - - - -		54
All cured.		
Of these cases, secondary symptoms have supervened in		14
In the form of ulceration of the throat in -	1	
——— of ulceration of the throat with cutaneous eruption in - - -	2	
——— of cutaneous eruptions alone in -	10	
——— of cutaneous eruption with iritis in -	1 *	
All of which have disappeared.		

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* In seven other cases of eruption, attended with iritis, which have occurred to my observation, the disease has been cured without the use of mercury. J. T.

XI.

Some Account of the Article Hæmorrhoids, destined to appear in the Dict. des Sciences Médicales, and written by DR MONTEGRE. By Sir T. C. MORGAN, M. D. Fellow of the College of Physicians of London.

THE civilization of Europe having commenced from many centres, the sciences have assumed a corresponding variety of local aspects. Each particular nation, modified from its cradle by the circumstances in which it was originally placed, has received, with its religious and political institutions, the elements of an individual cast of intellect. Each, therefore, contemplates objects in its own peculiar light, and mingles the impressions of sense with different general conceptions and trains of association. This scientific insulation of nations, although in the commencement unfavourable to the progress of mind, may become a cause of ameliorations, whenever a philosophical intercourse shall be firmly established throughout Europe. For, as each particular people has traced out for itself a peculiar path of inquiry, the general possessions, when added together, will necessarily prove more extensive, than if all had proceeded by a common route, and trod servilely in the same steps from the beginning. To the medical sciences the foregoing observations most especially apply, since no branch of human inquiry (theology scarcely excepted) has given birth to so many sects. Each school has, in its turn, sought distinction by the foundation of a theory; and theories necessarily lead to special trains of investigation.

Concerning the differences which characterize the English and French schools, I have spoken in another publication.* The subject of the present article, (now printed separately for the purpose of future correction), is strongly marked by all the peculiarities which distinguish the medical philosophy of France. It is deeply tinged with its theoretical views. It is characterized by the laborious and patient research; and it exhibits all the systematic arrangement, and analytical transparency, which are peculiar to the scientific literature of that country.

The author commences by fixing the term hæmorrhoids, which has usually been employed to represent very different phe-

* In the Third Appendix annexed to Lady Morgan's Work on France.

nomena. He neither applies it to the flux of blood, nor to the more common symptom of tumours; but restricts its use to the designation of that congestion and increased action in the vascular system of the mucous membrane of the rectum, which the French term "*mouvement fluxionnaire.*" It is this which he considers as the essence of the disease; as the cause upon which all the other symptoms depend,—the phenomenon to which all the others are but secondary.

From this view of the disease, follows the corollary that it is a constitutional complaint; an effort of nature to turn on one side, the effects of derangements in the organic balance; a substitute for other and more important affections. That the hæmorrhoidal flux occurs not unfrequently as vicarious to menstruation, and occasionally even alternates with it, will not be disputed. But it is granting too much to analogical conjecture, to consider this disease as playing the same part in the male economy, that menstruation does in the female; a notion on which the author will be thought to have dwelt, with more ingenuity than sound discretion.

"Ce principe solidement établi, que les hemorroides ne sont autre chose qu'une fluxion sanguine, on reconnait sur le champ la similitude qui se trouve entre cette fluxion, et celle qui, chez les femmes, se fixe sur la matrice. Sans m'engager dans l'examen des causes qui pourroient avoir amené la fluxion utérine à devenir regulièrement periodique, tandis que celle des hemorroides le devient moins souvent, je ferai remarquer, que l'une et l'autre se concilient fort bien avec l'état de santé, et que *la necessité de ces fluxions était une condition de la vie*, ce qui est une chose de fait, qu'il faut se contenter de remarquer, il n'est point difficile d'assigner l'ensemble des causes, qui les determinent vers l'uterus, ou vers le rectum." *p. 5.*

This idea of constitutional piles, though formerly prevalent among the English physicians, has fallen, of late years, into perhaps an unmerited neglect. The extreme irregularity of our insular habits of life, and the mutability of our climate, are by no means favourable to the observations of those great movements in the system, which the continental pathologists describe. We are not therefore to accuse them of exaggeration. But, however this may be, the practical part of the profession, with us, are agreed in treating hæmorrhoids as a local disease, depending either upon the engagement of a fold of the mucous membrane within the sphincter, or (in the varicose variety) upon obstruction of the circulation through the system of the vena porta. The cases, indeed, are very rare in Great Britain, in which the surgeon would hesitate in curing piles, under an apprehension

of contingent danger; and we but seldom hear of injury resulting from this mode of practice. We justly consider the disease as at all times embarrassing and troublesome to the patient; and as having a manifest tendency to produce prolapsus ani, fissures, fistula, and a long train of mischievous, and even fatal consequences; and in those cases in which the discharge does seem vicarious, or has become habitual, or when the subject is of a plethoric apoplectic constitution, we prefer having recourse to abstinence, purgation, issues, or even occasional blood-letting from the arm, to the maintenance of so painful and unmanageable a prophylactic. For we cannot therefore agree, that this affection, in any case, "*ne saurait être appelée une maladie.*" Still, however, the French mode of considering the question is not without advantage. It is well adapted for conveying elementary instruction; and it cannot be doubted that benefit may be derived from the means it holds forth, of keeping at bay incurable and dangerous maladies, by the establishment of the hæmorrhoidal movement. The cases which Dr Montègre cites, in which the progress of phthisis was thus modified, are worthy of being followed up by further observation and experiment.

Taking the local erythism or congestion as the generic symptom of the disease, the author divides hæmorrhoids into two orders, according as they recur periodically, or at irregular intervals; and into eight species, as they are accompanied by the different symptoms, which he regards as consequences, or complications, of that condition.

His first species (blind piles) consists in little more than the presence of the fluxional movement itself.

The second (fluentes) comprises the cases of fluxion accompanied by a discharge. This species admits several varieties, of which the most common is that in which hæmorrhage occurs by exhalation from the capillaries of the mucous membrane. Sometimes, however, the blood flows in jets from a single dilated pore. This hæmorrhage may either be active or passive. Another variety includes hæmorrhage by rupture of vessels; and a fourth embraces the case of a leucorrheal discharge.

In discussing the third species (of *tumid* piles), the author establishes two varieties, very frequently confounded in practice; the dilated vein varix, and the cystose tumour, to which he gives the ancient name of *Marisca*. The anatomical detail of this second variety is particularly interesting. The author describes the tumour as a small cyst of condensed cellular substance, containing a globule of congealed blood. In the interior it is either smooth, or beset with vellosities; sometimes, also, it is cellular, and formed of a spongy, pulpy, sort of parenchyma.

The effused blood, he contends, in opposition to Professor Chaussier, does not proceed from a ruptured vessel, but is lodged in a dilated capillary, in which it stagnates. Each of these varieties (the varix and marisca) are subdivided according as they are, or are not, accompanied with a discharge; and again, according to their site, within or without the sphincter. On this distinction, the author judiciously remarks, that De Haen was wrong in supposing that the discharge from internal piles empties exclusively the hepatic veins, while that which proceeds from external piles affects principally the aortal circulation. The anastomoses between the veins of these two parts, are too extensive to admit of such a difference. The fourth species described, consists of *painful piles;* of which there are noticed three varieties, the inflammatory, the nervous, and that resulting from fissures. Dr Montègre dwells particularly on the second, which he describes as a painful affection of the sphincter; commencing ordinarily after an evacuation, and continuing for periods of various duration, with an intensity that renders life quite insupportable. The remedy which has proved most effectual in his hands, is frequent cold ablution, by means of the ascending douche, which has often prevented the necessity of employing Dubois's dreadful operation of dividing the sphincter.

The fifth species embraces piles complicated with contraction of the anus;

The sixth with ulceration;

The seventh with prolapsus ani; and,

The eighth with irritation of the bladder.

From this very slight sketch of Dr Montègre's classification, it will be perceived that he has made a thorough and perfect analysis of his subject; and that he has thus been enabled to turn the reader's attention to every particular face which the malady can present, and to convey his instruction in the clearest and most unembarrassed simplicity. It would be idle to object that the disease rarely exists exactly under these separate forms; for that objection holds against all nosological arrangements. It is sufficient if they enable the writer to methodize his own ideas, and form a proper clue to guide him through the labyrinth of an intricate subject.

After the classification, the author next proceeds to enumerate the causes of piles, of which each is considered in its turn. Under this head, he protests against the use of hollow seats, so frequently adopted by persons afflicted with hæmorrhoids. Far from alleviating the complaint, it tends only to protrude the rectum, and to favour the descent of the tumours.

In the chapter on Treatment, (which is very extended and ample), Dr Montègre enters into long details on the cases in which piles should be suffered to remain uncured. Through the whole of this part of the work, the English reader will find much in which he will not be disposed to agree. The doctrine of derivation, especially, reigns in great vogue in France; and distinctions are still made between the effects of bleeding, as practised from the arm or from the foot. On the abuse of leeches, there are some useful remarks. Dr Montègre most justly observes, that the irritation which these animals occasion, when applied to the anus, increases rather than diminishes the disease. They afford, indeed, the most effectual means of producing the hæmorrhoidal effort, in cases where that practice may be deemed useful. On the subject of the chirurgical means of arresting hæmorrhage, the actual cautery is warmly recommended. It is a favourite remedy in the hands of the French surgeons. Against the employment of caustic, however, Dr Montègre protests with great propriety.

In noticing empirical remedies, he makes some general observations on medical reasoning, well worthy of attention. The *spirit* in which Frenchmen of the present day think, is greatly more enlarged and philosophical than that which characterizes our own countrymen; they are more bold and daring, and view the truth steadily, to whatever consequences it may lead. The work terminates with a chapter on misplaced hæmorrhoids, and some remarks on the hæmorrhoids of brutes.

The space to which this article is confined, necessitates the omission of many important observations. On the whole, the work forms a very well digested monograph, perfectly adapted to form part of a book of reference; and it will prove highly interesting to those who would obtain an insight into the method in which such subjects are treated in France. It does the highest credit to Dr Montègre's patience of research and abilities, both as a physician and as a philosopher.

PART II.

CRITICAL ANALYSIS.

I.

The Dublin Hospital Reports and Communications in Medicine and Surgery. Dublin, 1817. pp. 366.

We have great satisfaction in introducing this volume to the attention of our readers, as one of the most valuable which has been published since we began our critical labours. Excellent as it is, we trust that it is only the first of a long series, and we shall have to bestow still higher commendation upon each succeeding volume.

The title is not however accurately descriptive of the nature of the work; for, although Dublin Hospital Reports occupy a distinguished part, yet it contains many papers which owe their origin to private practice, and to observations unconnected with Dublin. In point of fact, its plan coincides with that of the Medico-Chirurgical Transactions of London; and the manner in which it has been begun to be carried into effect, shows, that if Ireland has not hitherto been distinguished from its periodical productions in regard to the healing art, its backwardness has not been owing to deficiency of information or talent in the profession, but to causes over which they had no control,—chiefly, we suspect, inactivity on the part of their publishers, and an erroneous belief that Ireland could not support a periodical work. This volume alone is calculated to dissipate that illusion; and now that our brethren on the other side of the channel have proved their strength, they will be to blame if they allow it again to obscure their merit. But we must hasten to prove the truth of our eulogium, which every one must consider as disinterested, since this publication will deprive us, at least, of the elaborate papers of many valuable correspondents.

Dr Cheyne takes the lead with a most interesting report of the Hardwicke Fever Hospital for the year ending the 31st March, 1817 (p. 1–116). Dublin unfortunately presents but too extensive a field for studying fever, as it occurs in this climate; and the liberality of the Irish government enables the hospital physicians to avail themselves, in the most advantageous manner, of the lamentable opportunity.

'I willingly avail myself of this opportunity of expressing my gratitude to the Governors of the House of Industry, not merely for their cordial reception of every proposal which I ever made for the benefit of the sick, but also for the admirable opportunities which their hospital affords of investigating disease. If this report shall be found of any value, it is due to them. With equal wisdom and liberality, they give every privilege to their physicians and surgeons, consistent with the welfare of the institution entrusted to their care. They do not restrain them in the pursuit of pathological knowledge. They wish the hospital to be subservient to science, and the instruction of youth, as well as to humanity.'

We have quoted the foregoing paragraph, as of importance to be attended to by the managers of hospitals for the sick in general, who may be assured, that it is only by treating their medical servants with confidence and liberality, they can confer upon the public the greatest benefit which the institution, entrusted to their charge, is capable of affording.

Dr Cheyne has described the fever of Dublin, during the time he has had the charge of the Hardwicke Hospital, in the true spirit of Sydenham. He has carefully studied and noted its varying character with the different seasons, and has not been led away by hypothesis, to consider it as originating in one unmodified proximate cause. During the end of spring and summer 1816, it was characterized by the predominance of inflammatory symptoms. When danger existed, it arose from a manifestly inflamed state of some of the viscera, which yielded to blood-letting reasonably employed.

'The advantage of blood-letting appeared not merely in the relief which was immediately experienced by the patient, but in cathartics acting with more ease and effect; in all the surfaces yielding—the skin and mouth becoming moister, and in a complete and regular crisis taking place very often on the next critical day. Blood-letting often strangled the disease in its birth; and when practised, on a relapse being threatened, it several times restored the patient to health in a few hours.

'I was not deterred from using the lancet by the appearance of petechiæ, nor yet by the tingling heat of the skin (the calor mordax), which used to be considered as a symptom of peculiar acrimony or putrescency of the humours, and consequently of a malignant disease.'

In the treatment of this form of the disease purgatives were next in efficacy.

'In the second week of August several cases occurred which seemed inclined to degenerate into dysentery; and about that time there was, in one or two instances, a discharge from the bowels of blood, immediately after which the fever ended favourably.

'The fevers underwent a change of character about the beginning of September. The flushing and headach continued, and the patients complained of general pains. I saw no instance of rheumatic fever, but the pains were nearly as severe as in that disease; the pains referred to the bones, were without the tenderness or tumefaction of the cellular membrane, which accompanies the more superficial pains of acute rheumatism. Nausea, and sometimes distressing sickness, was more prevalent, without, however, being so often attended with fullness of the hypochondria as might have been expected. The bowels were in general confined; bitterness of the mouth, or a foul taste, was very general; and, in many cases, the tongue was furred and yellow, as if the patient had recently swallowed a light infusion of rhubarb. When the disease began to abate, the patient was often excessively weak. Petechiæ took place in many cases.

'In September those patients who were blooded from a vein recovered slowly, nor did they seem to obtain that immediate relief from blood-letting which had taken place during the four or five months before. Local bleeding was more practised than general. The remedies which appeared most beneficial were emetics of ipecacuan, (which did not produce constipation, as mentioned by Tissot)—saline diaphoretics—diluents, such as water acidulated with vinegar, ewe-milk whey, &c. and mild purgatives—leeches, particularly to the temples—shaving and sponging the head and upper part of the body, while the extremities were kept warm.

'In October the symptoms of the fever were headach, attended with flushing; the foul and bitter taste was almost always complained of; there was sickness and vomiting. In many cases the tongue was yellow, in some instances with a very florid edge. In about one-third of the cases there were severe pains in the bones; some patients had what they called a "trembling" or thrilling into their bones; in not more than five cases out of fifty were there stitches in the chest, or cough. The heat of the surface was great; a florid rash with papulæ intermixed, or the violet or florid petechiæ (stigmata), occurred in a great many instances. In some the belly was obstinately costive. Several individuals had been without a stool for many days before their admission; and such were severe cases, the bowels often falling into an opposite extreme. There was great debility throughout; some were affected with syncope in the beginning; the severe cases seldom terminated before the end of the second week, which they did gradually, often without perspiration, scarcely ever with rigor. There were, however, cases in which an imperfect crisis by the skin took place on one critical day, and on the next or subsequent critical day the relief from fever was complete after a return of perspiration; so

that sometimes the nurses would observe, that the patient had got only half a cool. I believe, if the urine had been generally attended to, which it was only in a few cases, it would have been found turbid, with a lateritious or furfuraceous sediment, even in those cases in which the skin did not yield. Towards the end of the disease the bowels became loose, and continued so for some days, the colour of the stools being natural. Recovery was tedious; it was promoted by the gentle night sweats which frequently took place during convalescence. Relapses were not unfrequent.

In October, November, and December, in every dissection the mucous membrane of the alimentary canal was found in a state which showed the existence of previous inflammation. It was thickened, vascular in many parts, of a bright red colour; blood sometimes was effused beneath it; the veins appeared varicose; the rugæ were prominent, and between them were often discovered small white eminences, like enlarged mucous follicles, with minute apertures in the centre.

'In September, when the fevers were attended with general pains, yellow tongue, and great debility, emetics, purgatives, and cordials, (the latter in the advanced stage and in great moderation, not more than four or six ounces of wine in twenty-four hours), seemed very serviceable. But in October, although I still continued to use emetics, (ipecacuan alone), and mild purgatives, I gave cordials very sparingly, and to not more than one patient in ten or twelve; and I was frequently obliged to counter-order wine after it had been allowed for a day or two.

'Relapses, which rarely occurred in summer, were uncommonly frequent in winter; but bleeding, blisters, and mild purgatives, by subduing the irritation of the mucous membranes, seemed to prevent the complete re-establishment of the fever. The observations which I made in the year 1816, have led me to believe, that when a patient is threatened with a relapse, bleeding is one of the most effectual means of preventing it.

'Early in January, fevers combined with inflammation of the bronchial surface began to appear. During November and December, stitches and coughs were not unfrequent. But during the first fortnight of January, I took six or seven patients into the hospital, in whom the most striking symptoms were evidently produced by bronchial inflammation.

'In the early part of the month of February, I think I discovered three kinds of fever in my wards at the same time.

'1st, There were a few cases of the fever which prevailed during all the winter.

'2dly, Six or eight cases of a fever in which the expression was in general dejected, the strength prostrate, the countenance pale, or, if flushed, it was muddy and appeared sordid; the skin of the body, of a pungent heat, was almost always spotted with petechiæ, the extremities apt to be dry and cold, the tongue as if lightly dusted with chalk,

and tremulous: as the disease advanced, it became shrivelled and brown; the bowels confined, the urine pale; the patient vertiginous, in a state of delirium or fatuity, and, what was curious, sometimes he was conscious of the bewildered state of his mind. Towards the end of the second week he became soporose, being much confused when roused; but in the course of three or four days more his sleep became more natural; and this natural sleep, together with a break in the urine, and loose stools, were in general the only circumstances which could be counted critical, as the skin seldom yielded till convalescence was somewhat advanced, and then brothing sweats took place. The disease in general extended to the end of the third week; œdema of the inferior extremities took place in three of the convalescents. In looking over the daily reports of six cases of this kind of fever, I find that only one of the patients was blooded, and one was cupped; all the six recovered.

'3dly, The prevailing disease would, by most physicians in these countries, have been termed synochus; but it leant more to typhus than synocha, (unlike the kind of fever which prevailed in summer, which leant much more to synocha than to typhus); the patient's expression was, in general, anxious, the complexion very high, skin hot, petechiæ pretty frequent, the tongue white or grey, and furred with florid edges, great thirst, the nostrils dry, the bowels confined, the urine scanty and high coloured. The intellect was frequently unimpaired. The lungs were very often engaged, and towards the end of the month, and in the beginning of March, many of the patients expectorated mucus tinged with blood. On the 8th of March there were four patients in No. 1, and three in No. 4, who had expectorated mucus tinged with blood. Upon the decline of the fever, a numerous crop of vesicles, more especially on the hands, appeared in several of the patients; in one instance the vesicles were as large as the ordinary bullæ of pompholyx.

'In general, these two kinds of fever were unlike each other during all their stages. Nay, during convalescence, one might tell the difference between the two classes of patients; the convalescents from the former kind of fever were much longer weak; they were strikingly pale. They continued deaf, vertiginous, dull of apprehension, and childish, and they were also longer in regaining flesh as well as strength. In March, and more especially towards the end of that month, the former gained upon the latter kind of fever, being, however, more generally attended with flushing of the face and suffusion of the eyes, and with dun petechiæ: of such cases there were six or seven in each ward on the 31st of March, three from one house, and two from another. In several instances leeches were applied to the temples, or the temporal artery was opened. Some few who had cough along with a marked determination to the head, derived benefit from the removal of eight or ten ounces of blood from the arm, in the early part of the disease. The belly was kept open throughout, and the occasional interposition of the calomel bolus of the hospital was of great use. The head was shaved, and, together with the face

and neck, was sponged with cold water and vinegar; the feet were fomented with warm water. Diluents were freely given, especially cold water: about the 11th or 12th day the patients required wine. I began with four ounces, and generally increased the allowance to eight ounces, but never exceeded that quantity. Blisters were always applied.'

We have perhaps been excessive in our quotations from this truly Hippocratic report; but we found Dr Cheyne's expressions so consonant to our own ideas, that we were unwilling to alter them, and they scarcely admit of abridgment. At this time, too, when an alarm of fever has extended over the whole empire, and when artful men, both unconnected with, and belonging to the profession, are taking advantage of it, to promote their own private interest, we can scarcely be too active in disseminating correct and important information. We have not intended to supersede the perusal of Dr Cheyne's essay, but only to recommend it, and to put our readers in early possession of his mode of studying the nature and genius of fever, as influenced by external and adventitious causes, instead of considering fever as of one kind, differing only in degree. Besides what we have quoted, the reader will find good observations on the treatment of particular symptoms, the management of particular remedies, the modes of termination of the inflammations, excitement of the mucous surface of the intestines, and the febrile eruptions. The paper is concluded with tables, exhibiting the progress of the disease, and the treatment and the circumstances of the fatal cases; of each of which, with the history of the appearances upon dissection, we have clinical reports.

Dr Cheyne has contributed three other papers to this volume, of which we can only extract the titles.

A Case of Melæna, with observations on the alternate excess of morbid action in the mucous and serous membranes. P. 259—273.

Of Jaundice, unaccompanied with any discoverable disease of the liver, or turgescence or obstruction of the biliary ducts. P. 273—285.

Of the Virtues of James's Powder in the apoplectic diathesis. P. 315—325.

Dr Edward Percival has also contributed largely to the value of this volume. His principal paper is entitled, A Report of certain morbid conditions of the abdominal viscera, in some varieties of maniacal disease, with the method of curative treatment. By Edward Percival, M.D. Cantab. and Dub. P. 117—171.

These observations are derived from the author's extensive practice in the Hardwicke Lunatic Asylum. The subjects treated of are, Intestinal torpor, with increased secretion from the nervous

membrane, Diarrhœa, Voracious and depraved Appetite, Aversion to food, and Maniacal epilepsy. We are well pleased with every observation which tends to connect the treatment of mania with bodily disease, because it always leads to attempts to cure by the only means which we can employ with any prospect of success. The so much vaunted moral treatment of mental derangement is so rarely applicable, or capable of effecting more than slight restraint will do, that it is only by discovering the bodily derangement from which it proceeds, we can hope to bring mania within the province of the physician. In a great many of the recent cases of mania, the dusky or saffroned complexion, shining eye, and fetid breath, denote the disordered functions of the stomach and bowels. The bowels are constipated, often in an extraordinary degree; and the breath is highly offensive. In such cases, moderate bleeding is often necessary to render the subsequent remedies effectual, and it may be repeated from time to time. We also attempt the discharge of the morbid contents of the stomach and bowels by purgatives and emetics conjoined, as two grains of calomel and half a grain of emetic tartar every hour, till vomiting be excited; and the catharsis is to be promoted by other purgatives. By this treatment Dr Percival assures us, that, in most cases, manifest relief is obtained. The patient becomes more tranquil and amenable, and derives from the comfort of food and sleep considerable appeasement of mental irritation.

On the subject of diarrhœa in idiots and maniacal cases, many good observations are inserted. Depraved appetite and aversion to food, Dr Percival also refers, with great probability, to a morbid state of the digestive organs, which is capable of being removed by proper treatment.

In a preceding volume of the Journal, Dr Percival did us the honour to insert some observations on the use of oil of turpentine in maniacal epilepsy. The present paper is concluded with an account of his increased experience, which confirms his former favourable conclusions. The form he uses is an ounce of oil of turpentine triturated with an ounce of loaf sugar, to which a pint of spearment water is very gradually added. Of this emulsion an ounce three times a day is a full dose. Its obvious effect is to produce full purging, so that the dose must often be reduced to one half.

Dr Percival's other papers are—

Account of an Epidemic Petechial Febricula. pp. 213–218.

'The appearance of *petechiæ* in febrile diseases, either of the exanthematous or typhous kind, has usually been deemed a symptom of danger, even by those who have rejected the popular doctrines of putrescence or malignity. Its common occurrence in the worst description of epidemic fevers, gives countenance to this apprehension. Yet

experience has convinced me, both in hospital and private practice, that it is too generally exaggerated, and that a distinction, which I believe has not hitherto been noticed, respecting the appearance of petechiæ, may afford some guidance in determining the ordinary prognosis of that febrile symptom. When minute purple stigmata, or the florid marbled efflorescence (without elevation of the cuticle), appear in young subjects, before the fourth or fifth day of fever, they are almost uniformly banished in two or three days by cool air, cold ablution, and purgative discipline; and so far as I have observed, they import no peculiar danger or complexity of disease. On the other hand, when these eruptions appear, for the first time, at a mature stage, or about the crisis of fever, after due evacuants have been employed, and while the temperature of the body but little exceeds the healthy standard, such petechial symptoms indicate danger. In general it happens, that petechiæ make their appearance much sooner in children than in adults; they are likewise more quickly banished from the former than from the latter; and amongst several hundred children, whom I have attended in petechial fever, I do not recollect a single instance of vibices, of the large purple blotch, or of superficial gangrene.'

Some brief notices of the deleterious and the medicinal effects of Green Tea. (pp. 219–227.) The effects of green tea, in producing watchfulness in all, and injurious effects in some, are well known. In the instance observed by Dr Percival, they were attended with considerable danger; and the recovery of the patient seems to have been owing to the free exhibition of opium and brandy. The same treatment succeeded in a case which occurred to Dr Harvey. 'From other cases, an obvious inference will be formed that green tea possesses a specific property of controlling and abating the motions of the heart and arteries, a fact which is confirmed by ample evidence in less extreme cases.' Dr Percival is led by this consideration to recommend its use as a drink in fevers.

'The restlessness and hurried circulation which attend suppurative fevers, especially pulmonary consumption, are greatly alleviated by the use of green tea. Where the stomach is irritable, the infusion, if made too strong, may prove emetic; but, as much thirst attends these fevers, and the quantity of fluid daily consumed is often considerable, the tea may be administered in the degree of dilution which is found to be most palatable.

'In hydropic diseases, I can speak with some confidence of the auxiliary use of green tea, when taken liberally, yet not so far as to become unpalatable. If the spirit of juniper be added to the infusion, its diuretic properties are much increased. This fact is not unknown to drunkards, who indulge themselves in green tea punch, to obviate plethora from their copious potations.'

Lastly, Dr Percival employed strong tea successfully to counteract the poison of opium.

Case of Dropsy, by conversion of disease from the skin to the serous and cellular membrane. P. 293—301.

On the distortion termed Varus, or Club-foot. By A. Colles, M. D. (p. 175—190). The object of this paper is to recommend proceeding to remedy the club-foot immediately after birth, by the use of a peculiar simple and slight apparatus, fit for that tender age. This paper is illustrated by two plates, one showing the deformity of the bones, and the other representing the apparatus.

Dr Colles has furnished another short paper, 'On the cause of the disease termed *Trismus nascentium.*' (p. 285—291). Dr Colles was led to seek, by dissection, for the cause of this disease, in the umbilical cord and fossa, by various points of similarity between it and the trismus of adults; and, in all the instances which he examined, and these were numerous, he found appearances of inflammation.

'While I attempt to establish a morbid inflammation and ulceration of the umbilicus as the immediate cause of this disease, I by no means would object to the opinion, that it is connected with a state of the atmosphere more or less vitiated. For, whoever will refer to an essay on this subject by Dr Joseph Clark, inserted in the third volume of the Transactions Royal Irish Academy, must be convinced that such a cause does contribute to its production. I think, however, that it operates only as a remote cause, by inducing an unhealthy or unkindly form of inflammation and ulceration; and hence it is that this disease is so much more frequently met with in the children born in Lying-in Hospitals, than in those born in private houses.

'I have lately learned, however, from a lady who lived in Jamaica for many years, and had a number of negroes on her estate, that this disease, which had formerly carried off a very great proportion of the infants of negroes, is now scarcely to be met with; and that the means of prevention which they adopted were, to plunge the infant into a cold bath daily, for the first nine days, and daily to dress the umbilical cord with spirits of turpentine. This account has been further confirmed by the report of a medical practitioner from that island, who, while viewing the Lying-in Hospital, made precisely a similar communication to Mr C. Johnston.'

Observations on the remittent fever and the plague, which prevailed in the island of Corfu during 1815 and 1816. By Dr Goodison. (p. 191—203). This is no regular treatise, but merely an extract from the author's private correspondence, not intended for publication. The information communicated is, however, not the less important.

An account of the removal of a tumour which was situated beneath the angle of the jaw. By Dr Cusack. P. 205—212.

Observations on Hernia, by Mr Todd, (p. 227—257). This paper contains many valuable observations, the result of Mr

Todd's great experience. But they do not readily admit of abridgment, as they are chiefly directed to point out the inaccuracies or imperfections in former writers, or to detail the peculiarities of individual cases. We must content ourselves with recommending its perusal to the practical surgeon.

Mr Todd has also supplied a singular 'case of ruptured intestine' from a fall (p. 311—313), and the 'history of a remarkable enlargement of the biliary duct,' (p. 325—330). In this case, the biliary duct was so enlarged by its obstruction, in consequence of a scirrhous state of the pancreas, that it distended the epigastric and right hypochondriac regions, and gave the appearance of a large hepatic abscess pointing outwards. Under this idea, it was punctured, and upwards of two quarts of bile drawn off by a trocar. The patient, a girl of 14, died next day.

Dr Browne relates the history of a wound in the neck, in which the operation of tying the common carotid was performed with success, (p. 301—310). Every case of so important an operation has its peculiarities, and adds something to our stock of knowledge. In the present instance, the operation was performed by candle-light, and under the alarming circumstances of considerable risk of bleeding to death before the artery could be secured; a wound in the neck, which the patient had received seven days before, suddenly bursting and pouring out a torrent of blood, at 9 P. M. At the time of the patient's receiving the wound, Dr Browne had prepared to tie the artery, but, when all was ready for the operation, the hæmorrhage had ceased, from the compression made on the artery, and could not be reproduced, which rendered it improbable that it could have proceeded from the carotid artery; and the operation was postponed. The operation is well detailed, and produced no alarming symptoms. 'At the moment of applying the ligature, no particular pain or uneasiness was experienced, but some of the smaller arteries on the outside of the neck were seen to throb violently.' 'When in bed his pulse was 80, and weak. The temporal and frontal arteries on the right side throbbed violently.' After that, the only symptoms were a short attack of fever, some soreness of throat, and slight headach. As this man's life was almost lost by postponing the operation, and the effects of it upon the constitution were so slight, the practical inference seems to be, that, in doubtful wounds of the neck, it would be better to tie the artery without delay. In this opinion, we are confirmed by a case in which we saw it tied, on account of excruciating pain in the head, which remitted only when the carotid was compressed. It produced neither fever, headach, nor any other effect, than the temporary interruption of circulation through the arteries of the corresponding side of the head.

The volume is terminated by a paper on Periostitis, by Dr Crampton, surgeon-general, which is calculated to attract the attention of the profession to a painful, and often mismanaged disease. The author has drawn up a summary of his results, which we transcribe.

" 1st, Inflammation of the periosteum, unconnected with specific diseases, is an affection of very frequent occurrence. It often occupies the seat of the true venereal node, from which it can be alone distinguished by an accurate investigation of all the circumstances of the case.

' 2d, In the *acute form* of the disease, recourse should be had to the means, both local and constitutional, which have the most decisive effects in discussing inflammation. Should these fail to procure relief, I believe there can be no doubt of the propriety of dividing the inflamed portion of the periosteum through its whole length, down to the bone.

' 3d, The same treatment is applicable to the *chronic form* of periostitis, with this difference, that in its early stages the disease may frequently be acted upon beneficially, through the medium of the constitution.

' 4thly, In the constitutional treatment, as our attention is to be directed to the improvement of the general health, our views should not be confined to the correcting a disordered state of the digestive organs, whether real or suspected. The constitution should also have the benefit of those influences which act most beneficially upon it; and of these, I believe, country air and sea-bathing are justly esteemed the most powerful. Sarsaparilla, in whatever way it may act, is often eminently beneficial in cachectic habits, and particularly in those which have been injured by protracted courses of mercury. When chronic periostitis occurs in such habits, the compound decoction or the syrup of sarsaparilla may, in general, be given with considerable advantage.'

II.

A Physiological System of Nosology; with a corrected and simplified Nomenclature. By JOHN MASON GOOD, F. R. S. Mem. Am. Phil. Soc. and F. L. S. of Philadelphia. London, 1817. pp. 566.

THIS is one of those volumes which do honour, not merely to the author, but to the profession. We readily, indeed, confess that its erudition goes beyond our depth,—an unusual

confession for professed critics; but still we pretend to so much knowledge, as to deliver our opinion with great confidence, on the admirable application of profound and extensive literary attainments by Mr Good, to the rational reformation of the nomenclature of Nosology. If we were less confident of the correctness of our opinion, we would be warranted to express it upon the authority of the *plus docti* of the profession, of the Fellows of the Royal College of Physicians of London, whom we applaud for taking the very unusual step of granting that the volume should be dedicated to them, and that not in consequence of private patronage, or general esteem, but after perusal of the work itself. Their liberality in thus fostering a learned production of a member of the profession, not entitled to be ranked higher than among those whom, by their charter and by-laws, they are bound to consider as *minus docti*, almost makes us hope that the time is approaching when the fictitious is to become the real distinction between the two divisions of their body. At any rate, we trust that they will never have to repent the want of that selfish prudence which would have made them refuse a well-deserved patronage, lest it should form a troublesome precedent.

'The following work was announced to the public, and would have appeared at the beginning of the year, but that the author was desirous of obtaining the sanction of the Royal College of Physicians to dedicate it to that learned body. To the gratification of this desire, the President, with his accustomed politeness, afforded every facility, consistently with a due deference to the individual judgment of the fellows of the College. A copy of the work was laid for public inspection upon the censors' table on February 3; an official notice of the same communicated; and three other copies circulated among the fellows in rotation, and in as many different directions, for an examination of it at their respective homes. The court assembled on March 31, when the question was taken into consideration, and the author's request unanimously acceded to.'

It would far exceed the limits we can allot to this work, to enter into a satisfactory review of its contents. Almost every page of the preliminary dissertation furnishes matter for discussion; and although, in general, the opinions advanced in it seem to us correct, there are some which we are disposed to controvert. To select these topics would be invidious;—to comment upon the others, would be to repeat what is better said by the author.

The outline of this work, we are told, was sketched as early as the year 1808; since which time the author has kept his object steadily in view.

'The main object of the present attempt is not so much to inter-

fere with any existing system of nosology, as to fill up a niche that still seems unoccupied in the great gallery of physiological study. It is that, if it could be accomplished, of connecting the science of diseases more closely with the sister branches of natural knowledge; of giving it a more assimilated and family character; a more obvious and intelligible classification; an arrangement more simple in its principle, but more comprehensive in its compass; of correcting its nomenclature, where correction is called for, and can be accomplished without coercion; of following its distinctive terms as well upwards to their original sources, as downwards to their synonyms in the chief languages of the present day; and thus, not merely of producing a manual for the student, or a text-book for the lecturer, but a book that may stand on the same shelf with, and form a sort of appendix to, our most popular systems of natural history; and may at the same time be perused by the classical scholar without disgust at that barbarous jargon, with which the language of medicine is so perpetually tesselated; and which every one has complained of for ages, though no one has hitherto endeavoured to remedy it.

'The present, however, is but an attempt towards what is wanted, and is only offered in this view. How far such an attempt may be worth encouraging, and by what means it may be conducted towards a desirable degree of perfection, may perhaps be best determined by a brief glance at the chief nosological systems of the day, the nomenclature in actual use, and the general nature of the improvement proposed in the ensuing volume. It is the aim of this Introduction to offer a few hints upon each of these subjects.' pp. i, ii.

Accordingly, in the first section Mr Good gives a succinct, but accurate and critical history of nosology; and in the second he sufficiently exposes the barbarous jargon of its nomenclature. In the third section, he treats of the scope of his present work, which is chiefly intended to improve nosological arrangement and nomenclature. Of his first attempt towards the latter, we have spoken in a preceding volume, (Vol. VIII. p. 208.) On the present occasion, he has considerably modified his principles, and has somewhat reconciled us to his neoterick nomenclature. His general rules are—

'Firstly, a strict adherence to Greek and Latin terms alone. Secondly, a use of as few technical terms as possible, and consequently a forbearance from all synonyms. Thirdly, a simplification of terms, as far as it can be done without violence or affectation, both in their radical structure and composition. Fourthly, an individuality and precision of sense in their respective use.' pp. li, lii.

The second part of our author's design is to improve the arrangement of diseases, and he has endeavoured to erect his system on a physiological basis. He resolved

'To take at once the animal frame in its mature and perfect state,

and trace it, from some well-defined and prominent function, through all the rest; which, like links in a circular chain, may be said to issue from it, and to be dependent on its existence and properties.

'The author was soon led to a preference of the second scheme. It is by far the simpler of the two, and directly harmonizes with the fundamental principle which runs through all the systems of zoology, botany, and mineralogy, of forming the arrangement and selecting the characters from the most perfect individuals as specimens. He decided, therefore, upon taking the more prominent functions of the human frame for his primary or classific division, and the more important of their respective organs for his secondary or ordinal; and without tying himself to a particular distribution of the former in any authorized or popular use at the present moment, to follow what appears to be the order of nature in her simplest and most intelligible march.' pp. lxxviii, lxxix.

We should now give our opinion upon the merits of this arrangement. They are unquestionably great; but we are not prepared to enter into a critical examination of a subject of so extensive and intricate a nature. Whether it is likely to supersede the nosology of Cullen, can only be determined by frequent comparison with observation and protracted study; but we are decidedly of opinion that it deserves to be referred to along with it; and at all times it is of advantage to possess arrangements of diseases, upon all the various rational principles upon which a nosology can be established, because, by means of one of them, we shall sometimes be able to identify a disease which the other would leave ambiguous.

Mr Good, with the view of rendering his work more useful, and to assimilate it more closely to works of the same kind in the collateral branches of natural knowledge, has, to the systematic name of every disease, subjoined its chief synonyms in the English, French, and German, among the vernacular tongues; and in the Greek, Latin, and Arabic, as technical synonyms.

Lastly, In order to afford relief to the dryness of technical definitions and verbal criticism, Mr Good has digested the notes on his system into a running commentary, which he has endeavoured to render replete with interesting cases, valuable hints or remarks, and singular physiological facts, gleaned from a pretty extensive perusal of the most approved authorities, collective or individual, ancient or modern; occasionally interwoven with similar illustrations, as they have occurred to the writer in his own private walk and intercourse of life.

We might now give an outline of our author's arrangement; but unless we were to insert all his species it would be of no use; and our space will not allow us to extend this article any farther.

III.

A Treatise on Forensic Medicine; or, Medical Jurisprudence. By O. W. BARTLEY, M.D. Bristol. 8vo. pp. 77. Bristol, 1815.

An Epitome of Juridical or Forensic Medicine, for the Use of Medical Men, Coroners, and Barristers. By GEORGE EDWARD MALE, M. D., one of the Physicians to the General Hospital in Birmingham. 8vo. pp. 199. London, 1816.

THE mere fact of these publications is sufficient to show the increasing attention of the profession to the study of Juridical Medicine, and that writings upon the subject are in demand. Indeed, if the newspaper reports of the criminal trials which take place in various parts of the kingdom are at all correct, its state is truly deplorable. When we read of coroners in England, in cases of suspected murder, directing the examining surgeon to be contented with the external inspection of the body, from the vulgar prejudice against dissection,—when we are told of sheriffs in Scotland holding the opening of a body supposed to be poisoned with arsenic as unnecessary, and incapable of furnishing additional proof,—when we know that professional men neglect to ascertain the cause of death, because they received no compulsory order to that effect,—we must be satisfied, that the only means of learning the truth, exactly where it is most desirable, are often culpably neglected. But the instances in which its discovery is prevented by presumption and ignorance, on the part of those who undertake such an examination, are still more numerous. We every day hear of medical practitioners giving their [illegible] most confidence, on point[s] considered with the requisit[e] sal which admit of many e[xplanations] jecting them altogether, be[cause] stroying evidence, or failing [to] where it is to be found, nor [is] other hand, we sometimes s[ee] beat and baffled, from not k[nowing] they were entitled to claim f[rom] evils can only be removed g[reatly] and the profession, of the g[reat] study of juridical medicine.

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be promoted, by frequent publications on the various subjects which it embraces, whether by furnishing valuable instruction directly, or by giving rise to discussion.

Dr Bartley's Treatise on Forensic Medicine is avowedly incomplete, and notices only a few of those cases which come under the jurisdiction of the courts of law, wherein the decision must essentially depend upon medical evidence. His sections treat of artificial abortion, infanticide, protracted utero-gestation, rape, suicide by drowning, and contagious diseases.

Dr Male's epitome is more comprehensive, and treats of poisons, wounds, and contusions, infanticide, pregnancy, abortion and concealed birth, pretended delivery, rape, hanging and strangulation, drowning, dangerous inebriety, insanity, pretended and imputed diseases, apparent death, impotence, and hermaphrodites.

We have already given a general view of most of these subjects; * and a detailed examination of the works before us, would almost lead to a repetition of what we have already said. We may however observe, that Dr Bartley gives a detailed case of infanticide, and another of protracted gestation, from his own practice; and that Dr Male frequently quotes cases which have occurred in the practice of our courts. The following case is curious.

'It is well known, that when dead animal fibre is exposed, for a considerable time, to the action of a current of water, it becomes converted into a fatty substance resembling spermaceti, called by chemists *adipocire*. The period of time required to effect this change has been the subject of dispute. At the Lent Assizes, held at Warwick in the year 1805, a cause was tried which is of considerable judicial importance. A gentleman who was insolvent left his own house, with the intention (as was presumed from his recent conduct and conversation) of destroying himself. Five weeks and four days after that period, his body was found floating down a river. The face was disfigured by putrefaction, and the hair separated from the scalp by the slightest pull; but the other parts of the body were firm and white, without any putrefactive appearance. The clothes were unaltered, but the linen was exceedingly rotten. On examining the body, it was found that several parts of it were converted into adipocire.

'A commission of bankruptcy having been taken out against the deceased a few days *after* he left home, it became an important question to the interest of his family, to ascertain whether or not he was living at that period. From the changes which the body had sus-

* Edinburgh Medical Journal, vol. I. p. 330.

tained, it was presumed that he had drowned himself the day he left home; and, to corroborate this presumption, the evidence of Dr Gibbs of Bath was required, who, from his experiments on this subject, is better acquainted with it than any other person. He stated on the trial, that he had procured a small quantity of this fatty substance, by immersing the muscular parts of animals in water for a month, and that it requires five or six weeks to make it in any large quantity. Upon this evidence, the jury were of opinion, that the deceased was *not alive* at the time the commission was taken out; and the bankruptcy was accordingly superseded.'—pp. 142–144.

IV.

An Account of some Experiments made with the Vapour of Boiling Tar, in the Cure of Pulmonary Consumption. By ALEXANDER CRICHTON, M.D. F.R.S. Physician in Ordinary to their Imperial Majesties the Emperor, and Dowager-Empress of Russia, &c. &c. Edinburgh, 1817. pp. 62.

WE cannot *review* this pamphlet. It relates to matters of fact, of which we have no experience. We are extremely sceptical of the possibility of curing pulmonary consumption; and we are well read in the history of supposed remedies, which have from time to time gained the confidence of the public, only to fall successively into oblivion. Every proposal of a new remedy made in this country, we receive with distrust. We see so much of the undeserved success of interested empiricism, that the *auri sacra fames* immediately occurs to us as the real object, when we hear of any person pretending to cure consumption.

Of that unhallowed motive, our present author must stand unsuspected. Not only our personal acquaintance with him, and the high rank which his talents and exertions have deservedly procured for him, render it improbable; but his situation in the Russian service, precludes almost the possibilty of his discovery, even if it should prove as beneficial as his most sanguine hopes could anticipate, procuring to him any other reward than the satisfaction of having been the means of alleviating a great deal of human suffering.

Sir A. Crichton took the hint of employing tar fumigation in consumption, from a passage in the work of Mr Mudge, giving an account of an imperfect trial. He had recourse to it in two cases in his private practice, and the patients recovered. The

only doubts are, whether they really laboured under phthisis, and whether they owed their recovery to the tar fumes. That our readers may judge for themselves, we quote the second case.

'Mrs Fitch, thirty years of age, thin, of a livid complexion, rather flat chested, caught a violent cold during the summer of 1815, being then with child for the third time. She had recourse merely to common domestic remedies, and the cough continued throughout her pregnancy; as it was not of a painful or intense nature, it gave her no alarm. She was brought to bed in November of a healthy child; but she says it caught her disorder, and died quite exhausted. Mrs Fitch continued to cough during the whole winter, but the spring seemed to revive her, and to diminish her cough considerably. Some time afterwards, however, the cough became more violent than ever, and assumed a very alarming character. She then came to consult me about the middle of July 1816. She appeared to me in the highest degree consumptive; already a marasmus had commenced; the cough left her no rest by night or by day; she had a copious expectoration of greenish-yellow matter, of the consistence and other apparent qualities of pus. Colliquative sweats, accompanied by diarrhœa, had reduced her to a skeleton; her pulse was always quick; a high hectic fever came on daily about 12 o'clock, which ended in a copious colliquative sweat at night.

'Believing her case incurable, but wishing to ease her, I prescribed a decoction of althæa, with a little tincture of opium, to be taken every two hours; and as her state of extreme debility prevented her from being taken to the cable manufactory, I ordered her room to be fumigated with tar vapour; but I had scarcely any hope of her recovery.

'At first, the vapour occasioned headach as in the former case; but as she felt considerable relief in her chest, she persisted in the trial of this remedy. She assured me, that, without using any other means of cure than those above stated, she found, at the expiration of a week, that her cough and expectoration were much diminished, but that her great weakness prevented her quitting her bed. Her perspiration was also much lessened; the diarrhœa had ceased since her use of the decoction of althæa with opium.

'Her appetite and strength soon returned, while her cough and expectoration became daily less and less. At length she rose from her bed, and sat up several hours in an armed chair. From this period, her convalescence went on rapidly; all the bad symptoms disappeared, and she regained flesh. Her cough totally left her by the time of my returning into town early in September. In a week afterwards, I heard that she had resumed her former occupations, and felt herself perfectly recovered.

'From this time, until the 11th January 1817, I had heard nothing of her. She then came to tell me, that she had continued quite well the four last months of the year; that since September she had neither taken medicine, nor employed the tar fumigation, but that

she now thought she had again caught cold from the dampness of her habitation; that for the last fortnight her former cough and expectoration had returned, and that she already felt much weakened. I prescribed exactly the same treatment as before; and in a month afterwards, I heard with infinite satisfaction, from her husband, that she was again recovered.' P. 15—18.

These experiments were continued in the hospitals, and the reports of the cases are faithfully detailed. We quote the following note from one of the Reports, because the bad effects of *burning* instead of *volatilizing* the tar, by using a cracked vessel, were very obvious this very day, in trials under our immediate inspection. The vapours gave great relief; the burnt fumes caused much harm.

'About the end of February, we discovered that the tar fumigation had been ill conducted. In the first place, a bad kind of tar had been employed; and in the second, that it had been boiled in a cracked vessel; by which means the tar, instead of being volatilized, was burnt and decomposed by coming in contact with the iron heater, which produced very bad effects on the patients,—they coughed more, and complained of oppression on the chest.

'This improper mode of fumigation being corrected, and having employed, according to your Excellency's order, the pix liquida only, such as is employed in the cordage of ships, with the addition of half an ounce of * sub-carbonate of potash to each pound of tar, our patients are going on as well as they did at first.' pp. 37, 38.

We conclude by quoting Sir Alexander's general observations.

'The patients who have derived the greatest benefit from the tar vapour, are those who were attacked with true scrophulous, or tubercular phthisis. I confess this is quite contrary to what I expected. This kind of phthisis is the most common in Russia, as in all northern climates.

'The tar vapour seems to have healed the ulcers, and removed the inflammation of the tubercles in the greater number of such cases; but I do not believe it produces the absorption of the tubercles themselves. My first patient, N., although well enough to attend to his business out of doors, and although he has regained his strength, has still some symptoms, which, to the eye of an observing physician, announce the presence of these tumours in his lungs; but so long as they remain inactive, that is to say, without inflammation or ulceration, life may be prolonged; and if circumstances allowed this patient to reside in a better climate, there is every probability that he might live long.

'In cases of phthisis derived from a large abscess or vomica, par-

* I ordered the sub-carbonate of potash to be added, in order to destroy the pyro-ligneous acid, which is generally found mixed with the tar, and which excites coughing.

ticularly in young persons of sanguineous constitutions, where suppuration goes on rapidly, and is generally accompanied by fever, the tar vapour does little good. The immense quantity of purulent matter constantly present in the cavities of these large abscesses, prevents the vapour from acting upon their surface, and consequently it loses its effect. In two cases of this kind, a very temporary relief only took place from the fumigation. Indeed, it must be in vain to expect any great success from this, or from any other remedy, in cases of violent and neglected inflammation of the lungs terminating in large abscesses, the disorganization of the lungs in these cases being too widely extended to admit of cure.

'Nearly the same thing may be said of cases of suppuration succeeding active hæmorrhages in young persons, especially when accompanied with fever.

'In one case, however, of this kind, I succeeded in removing the consumptive symptoms by the tar fumigation, and the use of acetate of lead, combined with the aqueous extract of opium, which the patient continued to take during a whole month, without experiencing cholic, or any other inconvenience.

'At that period, when the cough, expectoration, and hectic fever, are greatly subdued by the influence of the tar fumigation, it seems to me often injudicious to continue it longer, or at least in so strong a degree as before; it then appears to dry the lungs too much, and ends in exciting a spasmodic kind of cough. The patient also, when in a state to breathe the common air, becomes weakened by the want of it. In a remarkable case of tubercular phthisis, where the tar vapour had produced extraordinary benefit, I was obliged to suspend, every now and then, the use of it, particularly when the expectoration was very slight. During these suspensions, however, which never exceeded two or three days, I always found the expectoration, and other bad symptoms, increase.'

V.

Report of the House of Recovery and Fever Hospital of the City of Cork, from 8th November 1816, to 8th November 1817: Containing Observations on the occasional Causes and Prevention of the present Epidemic Fever. By JOHN MILNER BARRY, M.D. Senior Physician to the House of Recovery. Cork, 1818. pp. 28.

ALTHOUGH we have received this short pamphlet but a few hours ago, the great interest which the fever, now epidemic through the empire, excites, induces us to give it the precedence

over large and valuable volumes, which have lain upon our table for several months. We expressed a desire to have reports on the state of fever from the various districts of the Empire, and Dr Barry was so obliging as to procure the means of transmitting this by post. It is published for the benefit of the House of Recovery, which, connected with its intrinsic value, should procure it a very general circulation.

The prevalence of fever in Cork during both these years is alarming and distressing.

Dispensary Fever Asylum, from 24th June to 1st December,	1520
Externs from 8th November 1816, to 1st March 1817,	217
Do. from 1st March to 1st December, - -	2484
House of Recovery, from 8th Nov. 1816, to 8th Nov. 1817,	2707
Do. from 8th November to 1st December, - -	299
	7227
Patients not included in the above, suppose - -	1000
Total number of Patients to 1st December 1817, -	8227

The admissions into the House of Recovery during 1816 were 958; in 1817, they have increased to 2707, and the deaths have increased from 37 to 100. The monthly admissions during the last twelve months are as stated below.

'*Return of Patients admitted into the House of Recovery, from the 8th November* 1816, *to the 8th November* 1817, *both days inclusive.*

December 1816, 124; January 1817, 144; February, 146; March, 160; April, 170; May, 204; June, 219; July, 224; August, 262; September, 265; October, 414; November, 425.—Total 2707.

We make the following extracts from Dr Barry's history of fever in Cork.

'As many unfounded opinions have been afloat respecting the genuine nature of this disease, I allege that it is precisely the same kind of fever which has been, in a greater or less degree, at all times contagious among the poor of this city. For the truth of this assertion, I appeal to all my medical friends, who have had numerous opportunities of observing the disease in the various forms which it has assumed, whether it differs in any material point from the typhus or synochus of other years. For my part, I can speak for a series of three-and-twenty years; and I can say with truth, that, to my own knowledge, the city has been never wholly free from it during that time.

'Admitting that the contagious fever has always existed in this city,

it remains to inquire into the causes of its propagation; and I aver that these causes have been at all times the same, and different only in extent with those of the last calamitous year. A short retrospect of the history of this disease, from the year 1800 to the present time, will serve to illustrate this subject, and to confirm the opinions I have stated respecting its true nature. In the year 1800–1, which was a period of great distress throughout the empire, from the scarcity and dearness of the prime articles of living, contagion spread so extensively, that there were not less than four thousand persons in contagious fever attended by the physicians of the Dispensary of this city. In the year 1802 the House of Recovery was opened on November 8th, to which the fever cases of the Dispensary were afterwards sent, with very few exceptions. From the return of plenty, and with the undoubted influence derived from this Institution, the contagion seemed to have been nearly banished. By a reference to our annual reports, it will appear, that, until the year 1810, the number of persons admitted into the House of Recovery seldom exceeded four hundred, and, for the greater number of years, rarely amounted to two hundred persons. But in the spring and summer months of the year 1810, contagious fever became so general, as to have excited considerable alarm; and we find that there was a corresponding increase of this disease in the city of Dublin. It happened that the year 1810, and the succeeding year, were periods of great suffering among the labouring and manufacturing poor, from want of provisions and deficient employment, which, as has been ever the case in this city, produced corresponding exertions in the wealthier inhabitants to relieve them. To these exertions, with the aid derived from the House of Recovery, which had now assumed a more perfect form from the general conviction which was entertained of its usefulness, it is owing that, during each of those years, of which the year 1811 almost equalled that of 1800 in scarcity of provisions, the number of fevers did not much exceed six hundred. We pass over the intervening years, till we arrive at the year commencing the 8th of November 1813, and ending the same date, 1814, when it is recorded, that the number of admissions were not less than eight hundred and forty-five. In the Report for that year, it is further stated, "that to this extension of contagion certain circumstances must have contributed, which were the common subjects of observation among the physicians of Cork, for two years preceding; such as the neglect of the scavengers, and the increase of the depots for collecting and retaining manure, which are a disgrace to any well-policed city." Such are the remarkable words of the Report ending 8th November 1814, to which we have brought down the history of the contagion, from the year preceding the era of our Institution. In this sketch we find that the contagion spread, except when counteracted by powerful causes, in proportion to the want of employment, the scarcity and dearness of provisions, and the want of cleanliness in the city; to which we may add, the same disregard to this virtue in the houses and persons of the poor. We shall find, that the same causes con-

tinue to operate in the two subsequent years in an accelerating ratio, till we come to the commencement of this eventful year.

'In the spring of this year, the fever began to exceed the accommodations of our Institution, and there was an immediate call for additional wards.'

These quotations must serve at present; but, upon the whole, the Report is excellent, and forcibly written; and we should have extracted some professional observations, if we were not assured that Dr Barry means to publish a practical work in which we will again find them.

VI.

The Morbid Anatomy of the Brain, in Typhus Fever, with a few Observations on its Nature and Mode of Treatment. By THOMAS MILLS, M. D. Licentiate of the King's and Queen's Colleges of Physicians. Dublin, 1817. pp. 26.

WE readily confess, that although blood-letting, in the continued fever of this country, was used by other practitioners before Dr Mills, we are indebted to him for having removed our fears and prejudices against that admirable remedy. Some practitioners still quibble about the nature of the fever in which it has been so successful. The recovery of so great a proportion of patients is held to prove that it was not typhus; for, say they, one in ten must die,—and they will acknowledge no typhus in which there are not petechiæ. In the twelve cases of which the dissections are detailed in the pamphlet, we have both these characteristics; we have death, and we have petechiæ, besides debility, and derangement of the mental powers. On dissection, the appearances were almost uniformly the same.

'Vessels gorged with blood, extending themselves through the substance of the brain, overspreading its lining membranes, the dura and pia mater and the arachnoid coat, and effusions between these membranes and into the cavities of the brain. These are analogous to the changes observed in phrenitis, in hydrocephalus, in apoplexy, and similar to those which are found in the cavities of the chest or abdomen, after a fatal pleurisy or peritonitis.

'While we pronounce, without hesitation, that, in these cases, the changes are indicative of increased and inflammatory actions in the organs in which they are discovered, can we suppose in typhus fever, where analogous changes take place in the brain, that the same disordered actions do not go forward?—especially since the appearances on dissection, by showing the relation between the symptoms and the organic changes produced by disease, are explanatory of the phenomena.'

PART III.

MEDICAL INTELLIGENCE.

REPORT of DISEASES treated at the EDINBURGH NEW TOWN DISPENSARY, from September 1st to December 1st 1817.

	No. of Cases.
Febris continua	173
—— intermittens	5
—— ephemera	47
—— infantum remittens	122
—— dentitionis	42
Hydrocephalus	3
Cephalæa	45
Vertigo	6
Paralysis	6
Mania	1
Melancholia	3
Epilepsia	5
Convulsio	3
Ophthalmia et sequelæ	71
Amaurosis	1
Hordeolum	3
Polypus nasi	1
Otalgia et Surditas	9
Odontalgia	28
Aphthæ et ulcera faucium	21
Cynanche tonsillaris	31
—— trachealis	4
—— laryngea	2
—— parotidea	3
Catarrhus	153
Pneumonia	45
Empyema	1
Pleurodyne	33
Hæmoptysis et Phthisis	26
Asthma et Dyspnœa	25
Hydrothorax	9
Pertussis	17
Carditis	1

	No. of Cases.
Palpitatio	7
Hepatitis acuta	4
—— chronica	9
Icterus	7
Gastritis	2
Hæmatemesis	2
Dyspepsia et Hypochondriasis	122
Hysteria	27
Enteritis	4
Colica et Obstipatio	123
Cholera	3
Diarrhœa	94
Dysenteria	8
Vermes	41
Tabes mesenterica	10
Hæmorrhois	4
Hernia	4
—— incarcerata	1
Nephralgia	2
Tympanitis	3
Ascites	3
Hydrops generalis et œdema	21
Dysuria	5
Hæmaturia	2
Phymosis	1
Paraphymosis	1
Inflammatio testis	6
Hysteritis	1
Hæmorrhagia uteri	7
Leucorrhœa	10
Prolapsus uteri	2
Cancer uteri	1

	No. of Cases.
Amenorrhœa et Dysmenorrhœa	3
Rheumatismus	104
Asthenia	5
Rachitis	1
Scrofula ossium et articulorum	6
—— glandularum	10
Morbus spinalis	1
Necrosis	2
Syphilis	6
Pseudo-syphilis	2
Phlegmon	41
Mastodynia	5
Paronychia	9
Erysipelas	5
Erythema	12
Variola	4
Varicella	19
Rubeola	3
Scarlatina	44

	No. of Cases.
Strophulus	5
Lichen	7
Prurigo	2
Lepra	5
Psoriasis	14
Roseola	3
Ecthyma	4
Impetigo	20
Porrigo	49
Scabies	93
Herpes	16
Rupia	1
Elephantiasis	1
Tumores	9
Ulcus	46
Ustio	19
Vulnus	20
Contusio et subluxatio	60
Fractura	5
Clavus	2

With the exception of some frosty nights in September, and some rainy and stormy days in October and November, the weather since our last Report has been tolerably mild and fair.

The most striking feature of our present Report, is the increase of continued fever, which has become considerably more prevalent, and more generally diffused over the town, since about the middle of October, a period at which an increase always takes place of the numbers of the lower orders in Edinburgh, from the return of persons employed in harvest work, and other country occupations.

It appears, from a statement published in the Edinburgh Magazine and Literary Miscellany for last month (p. 348), that the number of patients with fever treated in the Infirmary here during the first ten months of the present year, was 347. The number of fever-patients in the practice of this Dispensary during the same time was 267, of whom 65 were sent to the Infirmary. Deducting this last number from the sum of the two former, it appears that 549 cases of fever have occurred in the practice of these two Institutions in the above time. The number of fever patients visited from the Dispensary in November has been 85, of whom 27 have been sent to the Infirmary; and the number treated there has, we understand, been greater than in the former month, when it was 54; so that the number treated at the two Charities in the eleven months, must have considerably exceeded 650. This is independent of a number of

cases among the lower orders which have fallen to the charge of the Public Dispensary; and of various individuals, unconnected with any charity, but who practise extensively among the poor.

The number of fever patients at the Dispensary alone, in the eleven months, has been 352; rather more than 1 in 19 of the whole. This is considerably more than double the number of fever cases which occurred in the practice of the Dispensary during the whole of last year; * and, judging from the number of deaths from fever reported in the above mentioned document from the Infirmary (21 in the first ten months of this year, and 12 in each of the preceding years), the increase there would appear to have been nearly in the same proportion. There are, unfortunately, no official documents extending farther back, by which we can judge of the comparative prevalence of the disease this year, and at any former period; and we have found so much diversity of opinion among private practitioners on this subject, that we cannot pretend to form a judgment on it, with confidence, from their statements. It may be observed, however, that if the degree of prevalence denoted by the above documents be not unusual in Edinburgh, we must consider Edinburgh as unusually subject to this disease, in comparison with some other towns in Britain. Thus, the average number of patients with fever admitted into the Fever Institution in London, (which takes patients from the whole town, merely on the certificate of any medical practitioner of the disease being fever), appears, from documents recently published, to have been only 67 annually, for ten years preceding April last. And the fever patients of the Newcastle Dispensary, were only 8 annually for five years preceding the present.

In so far as the documents which we possess go, they evidently denote an unusual prevalence of fever in Edinburgh at present; and the circumstance of the Infirmary having opened additional wards for fever patients, leads to the same conclusion. The number of cases of fever which have occurred at this Dispensary in each quarter since September 1st, 1816, and their

* The number of cases marked 'Febris continua' in our printed Reports for last year, was 119, rather more than 1 in 44 of the whole; and on revising the lists after they were printed, we thought it right to strike off several of these, as coming more properly under the heads of 'Febris ephemera,' and 'Febris infantum remittens.' In the present year, we have been very careful to avoid this source of fallacy; but in comparing the numbers of this year and last, we have used the printed Reports of both without alteration; so that we are sure of our statement of the increase being rather below than above the truth.

proportion to the whole cases, are contained in the following table.

Cases of Fever.	Cases of Fever.	Whole Cases.	Proportion.
Quarter ending December 1, 1816,	28	1730	= 1 in $61\frac{11}{14}$
Quarter ending March 1, 1817,	49	1595	= 1 in $32\frac{37}{49}$
Quarter ending June 1, 1817,	74	1530	= 1 in $20\frac{53}{77}$
Quarter ending September 1, 1817,	77	1890	= 1 in $24\frac{6}{11}$
Quarter ending December 1, 1817,	173	2091	= 1 in $12\frac{115}{173}$

It is quite impossible, as was formerly remarked, to ascertain whether every case of the contagious fever now existing in this city, be the offspring of the specific contagion or not. But we have no doubt that contagion is the *exciting* cause of by far the greater number of them. We conclude this, not merely from observing that about five-sixths of our fever patients are certainly exposed to the contagion before they fall sick, but likewise from remarking the frequency of the disease in certain districts of the town, and the comparative exemption of other districts.

In the course of the year, we have indeed seen cases of fever in many different parts of the town; but there are still several large districts which have hardly furnished a single patient with fever; and yet, in which, all the causes of the disease commonly enumerated, contagion only excepted, exist just as abundantly as in those where it prevails. For example, until the middle of October we had no case of fever from Blackfriars Wynd, the population of which is probably three times that of Bell's Wynd, (which by that time had furnished forty-five), equally crowded and dirty, and suffering equal privations of every kind. We have had none from the closes on the north side of the Lawnmarket, and High Street, as low as Foulis's Close. We have seen fever only in one family on the south side of the Cowgate, west of the Horse Wynd, and adjoining closes; and in few of the closes in the Canongate. We do not deny, that there may have been cases of fever in these places, unknown to us; but as we have many patients from all of them in our books, and have often had occasion to visit patients in them all, when ill of other diseases (particularly during the prevalence of measles), we have no doubt that, if it had prevailed to any considerable extent in them, we should have heard of it.

On the other hand, a district not exceeding 140 yards in length, and 100 in breadth, (including the lower part of Bell's Wynd, and of the adjacent and opposite closes, and the intervening portion of the Cowgate), has furnished up to this date (Dec. 17.) 135 cases of fever to the Dispensary since May last.

besides at least forty more to the Infirmary directly, to the Public Dispensary, or to private practitioners.

An illustration of the same general fact, on a smaller scale, is perhaps worthy of insertion. In Hastie's Close, Grassmarket, there are two small rival lodging-houses, both miserably dirty, and constantly crowded with a succession of the lowest of the people. A stranger from Glasgow (as formerly mentioned in these Reports) fell ill of a fever in one of these houses in Feb. 1816. Within two months after this, fourteen more cases of fever occurred, in this house, and a private room adjoining it; the other house continuing free from fever. About a year after the cessation of this little epidemic, another stranger fell ill of fever in the other house; and in a few weeks we had nine fever patients from thence; the house formerly infected (and which had been cleansed and fumigated) remaining perfectly healthy.

Now, if we suppose that the specific contagion is the principal, or even the sole exciting cause of continued fever, we can easily explain its breaking out occasionally where the application of this cause is not suspected; but if we are to suppose that it is frequently excited by dirt, bad food, foul air, and accumulated human effluvia, without the application of contagion, it is exceedingly difficult to understand its great prevalence in one place, or in one district of a town, and its extreme rarity in, or total absence from another, for a considerable length of time, during which those causes are undeniably present in both.

When to this consideration we add, on the one hand, the well known fact, verified hundreds of times within our own observation in the last two years, that, in the ill-aired and dirty districts where it does prevail among the poor, the disease extends itself from individual to individual, from family to family, and from house to house, precisely after the manner of small-pox or measles; and when we consider also, on the other, the almost total exemption from fever of any severity, which is occasionally enjoyed by very large towns, in which poverty, dirt, foul air, and accumulated human effluvia, must exist in great abundance,—it seems impossible to resist the inference, that the number of cases in which fever proceeds from these causes alone, must be trifling, in comparison with the number of those in which it is excited by contagion.

The practical conclusion from all this is, not that cleanliness, fresh air, and nourishing diet, are not of the utmost importance in checking the progress of contagious fever, (it being allowed on all hands, that the opposites of these, by concentrating the contagious effluvia, and weakening the human constitution, favour the propagation of the disease),—but that where it is un-

fortunately impossible, effectually to apply those modes of prevention, as it always must be in many districts of a great town, we may nevertheless hope to preserve the population, in a great measure or entirely, from continued fever, if we can preserve them from the application of the specific contagion. And this is the only conclusion relating to this subject, which it appears to us of much importance to impress upon the public mind.

The means of preserving the mass of the community from contagion applicable to Edinburgh, are obviously, the speedy removal of the sick to the Infirmary, or, where that cannot be accomplished, their separation, as far as possible, from the healthy; and, after their removal, recovery, or death, the fumigation, whitewashing, and cleaning of the rooms, clothes, and bedding in which they have lain. The Society for the Relief of the Destitute Sick have lately made arrangements with a view to all these objects, which have been met by subscriptions on the part of the inhabitants, and by a liberal donation of materials for fumigation (with the oxymuriatic acid) from the Public Dispensary; and the success of which it will give us much pleasure to record in our future Reports.

The cases of fever have been in general more severe since the cold weather has set in; relapses have been frequent, and well marked petechiæ have occurred in several, pretty early in the disease. Cough and diarrhœa (assuming more or less of the dysenteric form) have been the most troublesome accompaniments of the ordinary febrile symptoms. There have been four fatal cases of fever in the practice of the Dispensary in the course of the year; in two of which the disease was complicated with inflammatory affection of the abdomen, and particularly with ulceration of the mucous membrane of the intestines, ascertained in one case by dissection, and pretty unequivocally manifested, in the other, by frequent puriform and bloody stools. In both these cases, the abdominal affection had long preceded the attack of fever. In judging of the mortality in this disease, it must be remembered that most of the Dispensary patients are children, in whom it is very generally milder than in adults.

In the midwifery department, the number of applications during the last quarter was 103, the number of deliveries 77.

Of these, there were 66 natural labours, two preternatural, in both of which the breech presented; one instrumental, in which the delivery was completed by the forceps, the pains having ceased; one premature, and seven cases of abortion. The children were 40 males and 30 females.

Three of the applicants were recommended to the Lying-in Hospital, not having proper accommodation in their own houses.

Extract of a Letter from Dr DICKSON, F. R. S. E. and L. *to* Mr GEORGE BELL, Surgeon, Edinburgh.

AMONG my papers, I find a letter from Mr Mortimer, then surgeon of the Naval Hospital at Martinique, dated the 1st September 1809, and stating, that the day before he had had an opportunity of seeing a curious instance of a human *lusus naturæ*, with two heads. Each head was perfectly formed, as were the vertebræ of the necks and backs, ending in distinct condyles. There were two chests, divided by one mediastinum, but only one stomach, and the course of the intestines was distinguishable by the meconium then flowing in considerable quantity. The mother had been delivered about six hours; and from the meconium flowing, and the appearance of blood from the funis, he considered it probable that it would have been born alive if the delivery had been early effected; but from the want of skill, and alarm of the obstetric attendant, at the difficulty which followed the first head, the poor woman was left for a considerable time to the efforts of Nature.

In the hope of obtaining some other particulars of this case of superfluous monstrosity, I wrote to Mr Mortimer, making further inquiries, and particularly as to the anatomy of the circulatory and respiratory organs; but some time elapsed before I could receive an answer; and I then regretted to find that circumstances had prevented his making any further examination; and that he could only repeat, from recollection, that there were two heads, and only one stomach tract of intestines, and arms perfectly natural; that there were two necks and chests, apparently well formed, and two passages leading into the stomach; but that he did not ascertain how far there was a provision for a double circulation, or whether one heart supplied the two heads and trunks, as in the instance published by Dr Monro, in his work on the nervous system. Haller describes an united case of two girls perfectly formed, when there was but one heart, consisting of a single auricle, into which the veins opened; but two ventricles, from each of which proceeded an aorta and a pulmonary artery; and Soemmerring has adduced various instances of double-headed fœtuses, as mentioned in an excellent paper upon that subject by Mr Lawrence, in the 5th Volume of the Medico-Chirurgical Transactions. In the present example, the means employed for its delivery had much disfigured the features of the face last protruded; but both heads seemed to be perfectly well formed.

February 1817.

P.S. I observe a misconstruction which might be of some practical importance, occurs in the article on Tetanus, in a late number of the valuable Cyclopædia of Dr Rees, and, therefore, it may not be improper here to advert to it. The writer, after quoting my paper in proof of the infrequency of this disease of late years in the West Indies, and alluding to the introduction of the stimulant and tonic plan of treatment by Dr Rush, continues—'There can be no doubt that, in many cases, the exhibition of wine or spirits has been attended with very good effects. Dr Hossack, in Vol. III. of the American Medical Repository, relates several cases which were cured by large quantities of wine. A free allowance of wine and porter, after gunshot wounds, has appeared also, according to the statement of Dr Macarthur, to have contributed to the very small number of cases of tetanus which occurred under his care in the hospital at Barbadoes, during nearly six years of the most active period of the war. Of the numerous cases of gunshot wounds received into the hospital, and of operations performed, during the whole of that period, only two instances of tetanus occurred.' Unless I misinterpret the above passage, the observation made to me by Dr Macarthur was intended to convey just the contrary impression. For, after having adverted to those two patients only having been attacked with tetanus, in the hospital, I observed, 'in these he expresses a suspicion, that it may have been favoured by a too generous diet; for it is well worthy of notice, that, from the low state to which these men were reduced, by the profuseness of the preceding discharge, &c. he had been induced to order them more wine and porter than had been allowed in any other instance.'—(Medico-Chirurgical Transactions, Vol. VII. p. 463.)

Dr Lazzaretto has tried the perfume of the pitch with very great success in confirmed phthisis; and we are informed that it is the Doctor's intention to give the public an account of this important discovery.

Mr Wishart has in the press a Translation of Scarpa's *Memoir on the Congenital Club-feet of Children.* This work will be illustrated by five original engravings by Anderloni. The edition will be limited to two hundred copies, corresponding with the number of sets of the plates received from Pavia.

Dr Morrison of Newry has nearly ready for the press, an Essay on the utility of Mercury in Typhus Fever. The mi-

neral will be advised to be given in repeated doses, so as to bring on, as early in the disease as possible, a new Febrile or Mercurial action. This being effected, the primary or morbid action will, in almost every instance, be found immediately to cease. The work will be illustrated by numerous cases, of which the present epidemic has unfortunately furnished too many instances. It will further appear by the Essay, that there is always *local inflammation in typhus;* hence the early use of *wine and other stimulants* will be strongly deprecated.

*** Communications have been received from R. L. Draper, D. G. Pearson, Dr Veitch, Dr Dods, W. L. Kidd, John Campbell, J. H. Fuge, and M. N.;—and the following Publications have been sent for Review.

Elémens de Chimie Médicale. Par M. P. Orfila.

A Sequel to an Essay on the Yellow Fever, &c. By Edward Nathaniel Bancroft, M. D.

Pharmacopœia Collegii Regii Medicorum Edinburgensis.

On Diagnosis. In Four Parts. By Marshall Hall, M. D.

An Essay on Calculous Disorders. By Alexander Marcet, M. D. F. S.

Compendio di Materia Medica. Di L. V. Brugnatelli.

A Sketch of Febrile Diseases, &c. By Robert Jackson, M. D.

Observations relative to the use of Belladonna, &c. By John Bailey.

Aphorisms illustrating Natural and Difficult Cases of Accouchement, &c. By Andrew Blake, M. D.

An Essay on the Human Ear, &c. By W. Wright.

Chemical Amusement. By Frederick Accum.

Pharmacopœia Nosocomii Regii Edinburgensis.

The History and Practice of Vaccination. By James Moore.

Trial of Robert Sawle Donnall, for the wilful Murder, by Poison, of Mrs Elizabeth Downing. Taken in Short-hand by Alexander Fraser.

A System of Chemistry. In Four Volumes. By Thomas Thomson, M. D. &c.

On the Influence of the Atmosphere on the Health and Functions of the Human Frame. By James Johnson, M. D.

Dr Dewar on an Epidemic Small-pox at Cupar Fife, showing the degree of protecting influence which vaccination afforded.

*** Communications may be addressed to the Editors, to the care of Messrs Constable & Co. Edinburgh; Messrs Longman, Hurst, Rees, Orme & Brown, London; and John Cumming, Dublin. And we have to request our Continental friends to send any thing larger than a *single* letter to the care of Messrs Perthes and Besser, Booksellers, Hamburgh, as the expense of sending journals and packets by the post to this country is enormous.

No. LIV. will be Published on the 1st of April 1818.

THE

EDINBURGH

MEDICAL AND SURGICAL JOURNAL.

1. APRIL 1818.

PART I.

ORIGINAL COMMUNICATIONS.

I.

Case of Gunshot Wound of the Heart. By JOHN H. FUGE, Esq. Member of the Royal Medical Society of Edinburgh.

SAMUEL EVENS, 25 years of age, a private in the 2d or Queen's Royals, was received into a regimental hospital at Plymouth, under my superintendence, on the evening of the 27th January 1809. On examination, a wound was discovered near the left side of the sternum, between the second and third ribs, in a state of healthy granulation, and discharging scantily a well conditioned pus. The fatigue necessarily attendant on his removal from the ship had produced an alarming faintness, from which, however, in due time, he was recovered by the administration of proper means. On inquiry, he informed me that he was struck to the ground by a shot, while skirmishing with the enemy's outposts on the evening of the 16th, which preceded the memorable battle of Corunna; that he believed he might have remained in a state of insensibility for the space of half an hour; that his comrades, on discovering him to be alive, immediately conveyed him to the town, from whence he was sent on board a line-of-battle ship in the harbour, crowded with sick

and wounded soldiers, on the point of sailing for England; that during his voyage the attentions shown him were necessarily limited, and no professional assistance beyond the common application of a plaster was obtained. Having communicated the foregoing particulars, he begged, most anxiously, that I would probe the wound, and endeavour to extract the ball, for he felt certain that it was within reach, and might easily be removed. I felt no hesitation in appearing to comply with his request, in order to pacify his extreme mental anxiety, and therefore immediately introduced a probe, which met with no resistance, and passed, nearly its length, into the cavity of the chest. This was repeated, on another occasion, with a similar view, but with the same unsatisfactory result. His general appearance was such as indicated an approaching termination to his bodily sufferings; his countenance was pale and anxious; respiration frequent and laboured; pulse 120, feeble but regular; temperature of body nearly natural; colliquative diarrhœa; distressing restlessness, inability to sleep, and a desire, constantly expressed, to take opium, which alone appeared indicated under the peculiar circumstances of his case. On the following morning, his condition was the same; he complained occasionally of an obtuse pain, but was unable to fix it to any particular part of the thorax. Until the evening of the 29th nothing further occurred worthy of remark, but at that period his intellects became more confused; he was less easily managed in bed; and, during the temporary absence of the nurse, he contrived to get up and seat himself on the receptacle, where by accident I saw him in a tottering state, from the approach of syncope. He was speedily restored to the recumbent posture, after which he became more and more restless, asked frequently for opium, and in the morning breathed his last.

I was informed by one of the grenadiers, who assisted in conveying him from the field, that, on the recovery of his senses, he expressed his conviction that the wound, from the very peculiar sensations he felt, would prove mortal. The loss of blood appeared not to have been copious at the time he was taken from the ground.

On the day subsequent to that of his death, the body was opened, in the presence of my assistants and some other professional gentlemen. On raising the sternum, the left side of the thorax was found to contain about two quarts of a serous fluid, slightly tinged with blood; the lung was reduced to a small solid mass, adhering strongly to the spine; the pleura costalis exhibited marks of high inflammatory action; the pericardium was thickened, and unusually distended; on cutting

Mr. Pigot's wound of the Heart.

into it, about half a pint of the same coloured fluid, as that found in the cavity of the pleura, was collected. The heart, on being superficially viewed, was found to have partaken of the prevailing inflammation; a thin coat of coagulable lymph adhered to it, and near its apex was seen a small attachment of coagulated blood. On raising the heart from the pericardium, I was struck with the appearance of a transverse opening, about one inch in length, penetrating the right ventricle, near the origin of the pulmonary artery. On removing the heart, by cutting through the great blood-vessels, the ball was sought for, and taken up from the cavity of the pericardium. By tracing its course, it became evident that it must have remained in the right auricle, as the tricuspid valve had a circular lacerated opening in it, near its attachment to the muscular structure of the ventricle. The contents of the right side of the thorax were unaffected by inflammation.

In this very extraordinary case, life was prolonged for nearly 14 days; and if the usual antiphlogistic means had been resorted to at the time when high inflammatory action prevailed, it might in all probability have been extended to a much later period.

Numerous instances of wounds of the heart are related by Senac, Morgagni, and others; but in those it does not appear that the perforations were so complete as in the present case. It is by no means difficult to account for the prolongation of life, where a sword or any other sharp instrument have been the weapons used; but how to explain the circumstance of the non-effusion of blood into the pericardium, at the moment of the accident, as well as subsequently, is a difficulty which hitherto I have been unable to solve.

The accompanying drawing accurately represents the specimen, as preserved in my collection of morbid preparations.

Plymouth, 31*st October* 1817.

A Case of long Existence after the Heart was Wounded by a Pistol Shot. *

Frederic Freemantle, a Swiss, about 30 years of age, being quite disconsolate, came to the rash resolution of shooting himself, on the 20th of October 1803. He was brought to the

* The following case, which is an appropriate sequel to the very interesting communication of Mr Fuge, was put into the hands of the Editor, in consequence of some observations he had made in a lecture on the wounds of the heart as a subject of forensic medicine, by one of his pupils, who unfortunately did not affix his name to it, and the Editor neglected to ask permission to publish it.

Middlesex Hospital about six o'clock in the evening, two hours after he committed the act, complaining of great pain in his chest and sickness at his stomach. The ball had entered a little to the right, and rather lower than the ensiform cartilage, and had taken a direction towards the left side. The examination with a bougie, which passed about three inches, gave him considerable pain, and seemed to aggravate his sufferings. There was no hæmorrhage; his breathing was somewhat confined, but he thought it only from the soreness of the external wound. About eight o'clock he was much the same, but soon after he became thirsty, and threw up whatever he took; even simple water would not remain a few minutes on his stomach; the pulse not materially altered. Opium was given, both in a solid and fluid form, but always rejected. About 12 o'clock the sickness abated. The following morning the pain in the chest increased; stomach pretty quiet; had passed a very restless night. 12 o'clock in the morning, the pulse had risen to 106, and was hard and contracted; the bowels were opened three or four times by a saline purgative. At 2 P. M. pulse stronger and fuller. He was bled to 12 ounces, but felt no relief from it. He said he was easier in an erect posture than a recumbent; he had occasionally convulsive twitchings about the stomach, with a sense of drawing inwards, and great confinement. He next morning complained of having had a more restless night than before; he had been obliged to get up and walk about the ward, assisted by the nurse, several times, in order to get ease. He desired to have a clyster, which was given him, and returned into the pan soon afterwards. He got up himself to the close stool, and fainted upon it. The pulse sunk rapidly, so much so, as in a quarter of an hour to be scarcely perceptible. The change in the countenance was equally remarkable, and the extremities became cold. In about 10 hours afterwards he desired to be assisted to the close stool, and, on being placed there, he suddenly expired, having survived the injury about 44 hours.

Examination after Death.

The ball had passed through the anterior mediastinum and pericardium, and had penetrated the right ventricle, whence it was thrown back by the irregular masses of muscles, the *columnæ carneæ*, situated in that cavity. The ball was lying loose in the pericardium, with a piece of paper that had been used for wadding, and about half a pint of blood, principally grumous. There was also about two quarts of blood in the right cavity of the chest, and nearly the same quantity in the left, but perfectly fluid. The ball had not struck the great *coronary vessels* of the heart.

II.

An Instance of a Disease producing Hydrothorax and Anasarcous Dropsy, with constant Expectoration, copiously, of purulent Sputum, for longer than a year, without Abscess or Ulceration of the Lungs. Extracted from a Clinical Lecture, by GEORGE PEARSON, M. D. F. R. S. senior Physician to St George's Hospital.

JAMES GORDON, 26 years of age, a large muscular man; a labourer for some years past, chiefly in sewers and other wet places, admitted April 16, 1817. Had enjoyed good health till twelve months ago; but had been a hard working man, and probably had lived intemperately. Could assign no cause for the first attack, which he called "a cold on his chest." Had not been so ill as to be confined to bed. Could only learn that, during the first five or six months, he had laboured under a cough, dyspnœa, and expectoration of probably mucous and purulent matter.

About half a year ago, the dyspnœa increased greatly; anasarcous swellings came on; could not bear an erect posture for want of breath, nor a recumbent one on the left side; was so weak as to be generally in bed; and the expectoration increased to two pints in twenty-four hours. The summer season afforded no benefit to the pulmonary complaints. The pulse was 96 in a minute; much impaired appetite for food. Complained of the lower extemities feeling ice-cold, but the most urgent symptom was dyspnœa. The considerable anasarcous dropsy, and, as I judged, also hydrothorax here present, I could only conjecture from analogy, were occasioned by visceral disease, specially of the lungs.

1. Ten grains of the quicksilver pill, with three grains of exsiccated squill, were directed to be taken every night.

2. A purgative draught, with senna, was also ordered every other morning.

3. Friction of the lower extremities with the mild liniment of ammonia was likewise prescribed.

Four days after admission, April 20.—More than a pint measure of muco-purulent matter, exactly like that in phthisis, from tubercles and vomicæ of the lungs, had been daily spit up. The symptoms were as above described, or with little alteration. To relieve the breathing and sense of oppression about the heart,

as also to throw some light on the disease of the lungs, eight ounces of blood were directed to be taken from the arm. As the blood exhibited a thick buffy coat, and the breathing was rendered a little less oppressive, and from other considerations, I was now inclined to believe that tubercles, and perhaps vomicæ, were present in the lungs.

From April 20th to the termination of the month of May.—The anasarcous swellings, and muco-purulent expectoration, continued without any diminution. The dyspnœa became more painful. The general weakness increased. Opium, blistering, and other medicines supposed to be suitable, were employed.

During the month of June.—The anasarcous swellings extended to the penis and scrotum, which were a great addition to the sufferings. The respiration became more and more distressful, and at times agonized the patient. Various kinds of purgatives were administered. Elaterium seemed to give more relief to the breathing, and to diminish the swellings more than any other medicines.

Opium, wine, and other comforts of food and drinks, were administered.

During the month of July.—The expectoration continued as copiously as before, but almost of mere pus; and I could hardly doubt that it proceeded from pulmonary vomicæ. The symptoms, especially dyspnœa, subsisted with little alteration. The pulse never exceeded 100, nor was less than 84 in each minute. The recumbent posture was less painful than being raised up in bed, and on the right than left side. The patient became more restless, more anxious in mind, and large doses of opium procured but little abatement of the symptoms, the anasarca, particularly, being without any diminution.

During the month of August.—The expectoration of puriform matter diminished. The patient became more and more feeble. There was no relief to the respiration. At the end of this month, delirium came on. The pulse continued at its former rate. Thirst supervened. Sometimes the patient screamed, and pathetically complained of want of breath and oppression about the heart. To the last day of life, could not bear to lie in any other than a recumbent posture, but not on the left side.

On the 2d of September, the patient died.

Examination of the Body.—Mr Cronin, the house surgeon, with his wonted dexterity and care, opened the body.

In the thorax—On the *right side*, about three pints measure of water were taken out. No adhesion of the lungs to the pleura.

On the *left side* no water; but the lung adhered strongly to the costal pleura.

The *lungs* seemed to contain a large quantity of black blood. They felt firm in some parts, but in general spongy, and in some places felt glanular. On cutting into these viscera no vomicæ were found, nor distinct tubercles; but a very small proportion of little granular bodies, the size of the smallest pepper-corns, were seen.

In many places condensation of the lungs had been produced.

The *heart* was almost without blood, and not at all diseased.

The *trachea* was uncommonly red, and also the bronchial tubes, as far as they could be traced, as if from inflammation, but no breach of the surface could be perceived, or even thickening of the lining membrane.

Bronchial glands.—Several of these near the root of the lungs were of an uncommonly large size, but not apparently diseased in structure.

Abdomen.—There was about a quart of water in the cavity of the abdomen.

The *liver* was quite in a healthy condition. The mesenteric glands were also quite sound, as well as the other viscera of the abdomen.

The stomach was prodigiously distended with air.

The liver weighed 3 pounds 4 ounces; the right lung, 2 pounds 2 ounces; the left lung, 1 pound 12 ounces; the heart without blood, 14 ounces.

As frequently is the case, we find the liver was equal in weight to both the lungs.

Remarks.—The dissection in this case rather shows the effects of a disease than the primary disease. For the water in the thorax and in the abdomen must be considered as the effect of some disease which was not manifest. In the same light, the water in the cellular membrane, in general, must be viewed.

The pus was secreted from the membrane of the bronchi and trachea, without any ulceration or abscess, the surface being entire, which is now an admitted fact. If the great redness of this membrane can be depended upon as indicative of inflammation, then the pus was secreted from such a diseased surface as in other similar cases; but I perceive no connexion as cause and effect between this disease of the trachea and bronchi with the anasarcous dropsy, nor even with water in the thorax. I have never met with such a combination before the present. Nor is it according to analogy, as far as my experience informs me, for, apparently, a violent inflammation of the air-tubes to

subsist twelve months in a state secreting pus to so great an amount as in the present instance. The condensed places in the lungs, and the granular masses, are of minor importance; at any rate, it is not reasonable to attribute much mischief to them. It is usual to refer these effects to chronic inflammation; but the conclusion is not satisfactory. This case, among many others, shows that the most experienced physicians frequently treat maladies which they believe to be tuberculous diseases and vomicæ, which, on dissection, are found not to exist; and, on the contrary, such maladies are sometimes found, on dissection, unexpected, because the usual symptoms did not subsist. These occurrences furnish materials for improving the history of diseases; and such a procedure is the only path to the knowledge of the distinction of them. Physiology must give essential aid; for, if the properties of the organs in a healthful state be known, the knowledge of these organs in a diseased condition is perhaps a necessary consequence; but such physiological knowledge is not yet attained. The water in the right and not in the left cavity of the thorax, perhaps will account for the patient being able to lie on the right side but not on the left; indeed it is most reasonable to expect this to be the case. It is against reason for a recumbent posture to be easily borne, but not an erect one although supported, while there were three pints of liquid in the right cavity.

III.

Observations on Blood-letting from the Hæmorrhoidal Veins in certain cases. By William Brown, M. D. Fellow of the Royal College of Surgeons, Edinburgh.

It is matter of regret, and not of reproach, that the improvement of medicine does not bear a proportion to the number of those who exert themselves in its cultivation. But how slow soever the progression is, may we not please ourselves with the assurance, that some progress is actually made? It is, I am afraid, too true, that the inductive method of inquiry is not adhered to with all the caution that is required for the discovery of truth; yet still the general feeling of the profession seems to be, that we ought never to proceed to draw practical conclusions, unless facts support us in forming them.

But while I congratulate my brethren on the superiority they have obtained over mere speculation, I would, at the same time, beg leave to ask, whether we have not overlooked, in some cases, several useful truths which were known to our predecessors? Are we not too prone to endeavour to raise a fabric of new materials, without using some of the old matter which lies buried in the rubbish of the systems of former times?

I have been led into this train of thought by a very interesting conversation I had lately with an old and much respected friend. This gentleman, to a vigorous intellect, has added much scientific and literary acquirement, and has not permitted the experience of fifty years extensive practice to pass idly through his mind.

Revolutions in medicine are perhaps of as much importance to mankind as revolutions in civil governments. War, the almost inseparable concomitant of a change of government, is indeed a severe scourge on the human race; but I am not sure whether a general system of bad medical practice is not productive of more physical suffering and mental distress. Are not those physicians who, having obtained the supreme authority into their hands, have introduced erroneous notions and bad practices into the profession, and to whose *dicta* their brethren have subjected their understandings, as much to be dreaded as a military tyrant who tears up the peace of society at the head of an overpowering force? We trust that the time of such irrational submission, either in government or science, has now passed away, and that amendments in both will be effected under the slow and cautious guidance of common sense.

My friend and I discoursed on the popular notions of past and present practitioners. Both he and I are old enough to enable us to look back for a considerable number of years. We can recollect the wonderful efficacy ascribed to the cold regimen in small-pox, and how much mischief was sometimes done by carrying the application of a powerful and useful remedy to an extreme. We have seen the fanciful notion of the salutary power of cold applied in the rearing of children, on purpose to harden their constitutions, give place to more rational management. We have outlived the nauseating cure of fever, and have seen mankind in a great measure freed from its severity. We have seen electricity consigned, almost without a struggle, into the hands of the philosophers. We find the boasted cures for consumption, swinging, digitalis, factitious airs, and many more, are scarcely to be met with but in the books of the original proposers, and of those who were too eager to assert their successful employment of a new remedy. Consumption still continues

to hold a place among incurable diseases. If our knowledge of it is extended by examination of the parts affected, this knowledge has not lead to any means of relief. Here, as in many other cases, the extent of our knowledge is of little other use than to show us the inadequacy of the means we possess. We have noticed and wondered at the supposed efficacy of cold water in arresting the progress of fever; and now observe, without wonder, how soon, and how rapidly this remedy, which could boast of a thousand testimonies in its favour, is giving place to the abstraction of blood. We remember, in our early days, blood-letting was a common remedy in the fevers of those times, and was almost universally held to be of very considerable use. It is in the recollection of many, how venesection was, in some considerable measure, banished from practice by men of eminence, who were more occupied in contemplating a power which they thought resided in the nerves, and of which the aberrations produced disease, than in observing the derangement of that mechanism of the body, which is less removed from the cognisance of the senses. Now again, the chief attention of physicians appears to be directed to the changes connected with the state of the blood-vessels, and the relative proportions of the contents of their different series or systems; and the abstraction of blood, seems to be thought almost the "unicum remedium," to restore the balance where it has been overturned, and the sound state of the vessels themselves, where it has been impaired. I will not say that this opinion is without foundation; but I would use the liberty of putting my professional brethren in mind of an old proverb, "nequid nimis." Blood-letting is a most powerful remedy, and its proper employment, I verily believe, has preserved many lives; but something more than the mere abstraction of blood is necessary for the cure both of inflammation and congestion of blood. There is a natural process wanted in both cases, which process the most skilful physicians cannot institute; after bleeding, we must wait till nature, in her own way, restores matters to their healthy course. To bleed them impatiently, without waiting for the efforts of nature, may perhaps be an improvident expenditure of blood. This matter appears to require more circumspection than seems to be given to it, and more caution than the apparent success of some practitioners would lead us to exercise. It does not appear unfair to say, that although the copious evacuations of blood which we sometimes witness, and of which we frequently read, may prove how much may be taken away with seeming impunity, yet it by no means convinces us that in any case so much was necessary to cure the disease.

With respect to topical congestions of blood, there appear to me some plain facts which have been ascertained without much scientific disquisition.

One of these facts is, that blood may be accumulated in certain orders of vessels without much derangement of the functions of the part; though such accumulation ultimately produces a morbid change; this fact I think well exemplified in the head and lower belly.

Another fact is, that these congestions are often repeatedly relieved by the efforts of nature; in the one case by bleeding from the nose, and in the other by bleeding from the extremity of the rectum.

It is to the congestion in the vessels of the lower belly, that I have at present taken the liberty to call the attention of your numerous readers. It appears to me that this fact is, in a considerable degree, forgotten. This is the more to be regretted, because that condition of the vessels of the viscera seems most frequently to be connected with the changes which our organization and economy undergo in civil society.

The British physicians of a former age, and the continental physicians of the present day, appear more attentive to this matter, than the majority of us now are. It is unnecessary to conjecture to what causes this inattention is owing. Leading men probably drew away the attention of their followers from this subject, and directed their views elsewhere. But I would beg leave to suggest, whether it be not probable that a congestion in the hepatic system, is a link in the series of causes or sequences, which produce those changes which we have reason frequently both to observe and dread. But, however this may be, the fact appears to me certain, that less attention is paid to the congestion of blood in the veins of the belly, than its importance deserves.

It appears somewhat odd, that while topical congestion of blood is admitted to exist in a variety of cases, the way in which it is thought this accumulation can be best removed, is by taking blood from the arm. One would think that the most effectual way would be to empty the vessels themselves immediately; and further, that we should follow the course we observe the system pursue to relieve itself. The fact, that the head is eased by a bleeding from the nose, and the lower belly by the bleeding piles, is indisputable: nay, that a small quantity of blood from these parts, will give more relief than a larger quantity taken elsewhere.

It has been alleged, and perhaps not without reason, that we are disposed to hold foreigners in too little estimation, and

therefore are unwilling to be taught by them. Indeed, the exertions which Great Britain has made in science, arts, and war, give her some title to assume a tone of superiority. Yet it is true that, in some things, she is even behind countries which she considers as almost barbarous. She might learn more things from them in the arts and conveniences of life. Among others, I think she might be benefited, without degradation, by attending to the practice of the old continent in the case which I have endeavoured to state.

The advantage of taking blood from the hæmorrhoidal vessels, is so well established in many parts of Europe, that the practice is, in a great measure, taken out of the hands of the medical profession. Hence, in some places, there is reason to think it is often employed without necessity, and is productive of inconvenience, by establishing a habit not easily to be overcome. The operation necessary, is committed to male and female practitioners, who execute it with surprising dexterity, by the application of leeches to the verge of the anus. The patient is subjected to no indelicate exposure, and to very little trouble. If strength permits, he is seated on a perforated chair, which only uncovers the anus itself; the operator, stooping or kneeling, by means of a taper, sees the part to which the leech is to be applied; and, provided with a small round wide-bottomed bottle with a long neck, just large enough to contain one leech, he allows the animal to crawl out and fix itself on the part intended. The operator having applied one leech, withdraws the bottle, and proceeds to fix one after another till the desired number have been applied; a basin is placed under the chair, into which the blood flows. The discharge of blood is promoted by the use of a warm sponge, which gives also the patient the advantage of a warm fomentation. If the sick is unable to get out of bed, the exposure and fatigue of this remedy are not greater than what accompanies the administration of a glyster.

I have stated that this practice is often precautionary, and occasionally abused; but its employment is more frequent in cases of acute and dangerous disease. It is a most powerful auxiliary to general blood-letting, and at the same time a means of rendering a great evacuation of the vital fluid much less necessary. In cases of abdominal inflammation, such as hepatitis, enteritis, puerperal fever, in suppressed menses, lochia, &c. this cure is put in practice with the greatest success. Instead of applying leeches to the parietes of the abdomen, which is sometimes the case with us, they place them on the hæmorrhoidal veins, and uniformly find they more effectually, because

more immediately, empty the vessels belonging to the abdominal viscera.

46, *Hanover Street,*
21*st January* 1818.

IV.

Case of Lithotomy. By T. Smith, Surgeon, Kingussie.

June 7th, 1817.—Malcolm Macpherson, aged 77 years, complains of severe pain in the glans penis and course of the urethra, during and after every evacuation of urine, which is accompanied with a tough slimy discharge. He has often, particularly after riding on horseback, discharged considerable quantities of blood by the urethra. His calls to make water are very frequent; but it does not appear that the stream of urine is ever suddenly interrupted, before the whole is evacuated. Frequent tenesmus. Of late his general health is much impaired; he has no appetite for food; and has not been sensible of sleeping for several nights. Pulse 80; tongue white. His bowels have been kept open by means of castor oil; after the operation of which he is relieved for a short time.

Five years ago, Mr Macpherson applied to me with similar symptoms,—I sounded him then, and ascertained the existence of stone in the bladder. By means of magnesia and rhubarb, in frequent doses, and continued for several weeks at a time, that and many succeeding paroxysms of stone were cut short, or sensibly mitigated. But the present, which has continued for about two months, has resisted every remedy, and rather increases in violence.

On sounding him now, the *concave part* of the instrument was felt and heard to strike against a stone, which appeared to be lodged in the anterior part of the bladder, inclining to the right side.

8th.—The operation of lithotomy being resolved upon, I this day performed it in the presence of Mr Grant, and extracted two small calculi, weighing 190 grains. These calculi were flattened on *both* sides, which led to the suspicion of one or more remaining behind. But after the most careful search, both by Mr Grant and myself, no other could be found.

In the course of his recovery, nothing worthy of remark occurred, except that, about eight days after the operation, the

right testicle swelled, and continued so for some days; and he complained of much pain in the integuments covering an old hernia, passing through the abdominal ring of the right side into the groin. This pain was relieved by the integuments bursting, and discharging a small quantity of matter; which they had done from time to time for several years past. Before the end of the third week after the operation, the patient had so far recovered, that he went out to angle for two or three hours every day.

He remained perfectly free of any of the usual symptoms of calculus for six weeks. At the end of that time, however, he sent me word, that he had pain in making water, and that part of it still came by the wound. I ascribed these circumstances to his taking too much exercise, and advised him to keep quiet till the wound should completely heal. About the middle of August I visited him, and found the wound completely cicatrized, except a very small fistulous opening, through which a little urine occasionally came. I had him brought to Kingussie, to be under my immediate care, intending to have recourse to the proper means of curing the fistula. When he came to the village, however, he told me that he began to feel the same pain *after* making water he had done before the operation. On sounding him, another stone was discovered, lodged apparently in the same part of the bladder from which I had extracted the other two. About this time I carried Dr Robertson of Inverness, who was accidentally passing, to see my patient. He was satisfied of the existence of the stone, and remarked, as I had done before, the singularity of the circumstance, that the stone should be felt with the *concave part* of the sound. Mr Macpherson was anxious for a second operation; but this was deferred until he should recover from a swelled testicle of the right side, attended with severe pain in his loins.

September 6th.—This day I performed the operation of lithotomy upon him for the second time; and, on introducing the forceps into the bladder, laid hold of, and extracted at once, two calculi, weighing 82 and 100 grains.

9th.—Urine comes entirely by the urethra; feels quite easy. 8. P. M. patient complains of again feeling pain *after* making water. I therefore introduced the sound into the bladder, but for a considerable time could feel no stone. I observed, however, that when I turned the point of the sound towards the right groin, a gurgling noise proceeded from the hernia there. I desired Mr Macpherson to reduce the hernia, and keep it up until I had finished the search. The moment he did so, I felt the sound rub against a stone, and, on directing the point of

the instrument towards the groin, I could make it strike against the stone, so as to make the sound of it audible at the distance of several feet.

10th.—Had a very restless night. I brought him to the table, and having broken with my finger the tender adhesions, which already had completely united the wound, both externally and internally, I introduced the forceps, causing an assistant, at the same time, to keep the hernia in a reduced state, and extracted two calculi more, weighing 124 and 98 grains. I had some difficulty in finding the second stone with the forceps, even after I had ascertained its existence with the sound, on account of the assistants having, in the *interim*, allowed part of the hernia to slip out. When this was discovered, and remedied, I laid hold of the stone with ease, by directing the forceps to the right side of the fundus of the bladder, at about eight inches distance from the left tuberosity of the ischium.

17.—Urine comes entirely by the urethra; wound, except one small spot, healed by the first intention. I have repeatedly examined the hernia before and after the patient's making water, but could not observe that its size was affected thereby. But the following circumstance, which I discovered in the course of my attention to the subject, proves, I think, that the intestinal hernia was complicated with cystocele. At any time after he had apparently emptied his bladder of urine, when the hernia was down, he could, on pressing it up, always make about two ounces more.

The chief circumstance in this case which has induced me to request a place for it in your Journal, is, that the reduction of the hernia was necessary to the finding and extracting the two last calculi, and also to the complete evacuation of the urine, as mentioned above; a circumstance which clearly proves, if I am not mistaken, that part of the bladder was ruptured, or dragged down along with the enterocele; and that the last two, probably the whole six calculi, were lodged in the ruptured part. It has been observed, that 'cystic hernia may be the cause of an intestinal one.' But, in this case, I am disposed to think that the intestinal hernia was the cause of the cystic. About 16 years ago, Mr Macpherson fell upon the blunt end of a salmon spear, by which he received an injury in the part at which the hernia now protrudes. This injury was followed by an extensive abscess in that part; after opening which, it was found that he was affected with hernia. From the time that the abscess commenced, until it was opened, which was several weeks, he was constantly confined to bed, and had no affection of the urinary organ, except that the urine was small in quantity, and high

coloured. Hence, it does not seem probable that the hernia observed when the abscess was opened was cystic, since the contracted state of the bladder would necessarily prevent it from being presented to the opening in the wounded parietes. This opening is immediately above the right ramus of the os pubis, about an inch from the symphysis. The peritoneal sac of the intestinal hernia must, therefore, be close to the fundus of the bladder, where the peritonæum is attached to it. Hence, it seems more probable, that the fundus of the bladder, when in a distended state, was dragged down along with the intestine, or pressed down by the action of the abdominal muscles and diaphragm during the act of micturition. If this reasoning be correct, the following rule will arise from it.—*That, in performing the operation of lithotomy on patients who have a hernia passing through any opening close to the bladder, the hernia ought always to be kept in a reduced state at the time of searching for the stone.*

I have only to add, that these operations were performed with the scalpel, in the new manner recommended by Dr Thomson in his 'Proposal.'

2d February 1818.

V.

A Concise Account of the Typhus Fever, at present prevalent in Ireland, as it presented itself to the Author in one of the Towns in the North of that Country. Being the Substance of a Paper read before the Royal Physical Society of Edinburgh in November 1817. By WILLIAM L. KIDD, M. R. C. S. London, President Roy. Phys. Soc. Edinburgh, and Surgeon Royal Navy.

SIR,—As I am not aware that any of the medical gentlemen of Ireland have as yet favoured the public with any information whatever on the subject of the fever which has for several months past, and, I am sorry to say, at this moment continues to afflict many parts of that island, I have to request that you will favour me by giving the following remarks a place in your Journal—should this indulgence to me not operate to the exclusion of something else on the same subject, which might appear to you more deserving of public notice.

I do not, nor indeed can I, presume to hope, that my observations shall serve to guide the practitioner to a better treat-

ment of this individual disease, or to convey to him a much more intimate knowledge of typhus in general, my principal, and indeed my only design, is to call forth the observations of those gentlemen, who have had but too ample an opportunity afforded them, for putting in practice the various modes of treatment recommended by authors in the cure of this disease. Should my design succeed, a mass of information may be obtained, which may tend considerably to assist the future practitioner in his endeavours to avert the fatal effects of a malady, which, through the course of the last six or seven months, has passed so generally through their country, as to leave few families into which it did not carry sorrow, mourning, disease, or death!

It must still be in the memory of all, that the winter which terminated the year 1815, and commenced that of 1816, proved not only uncommonly severe, but unusually protracted, insomuch that the seed-time of the latter year did not take place generally in Ireland till the months of April and May. These were followed by a summer, (if such the months of June, July, and August could be called), to which I believe the memory of man furnished no parallel, being wet, cold, and in every respect incongenial to the growth or maturation of the fruits of the earth. The more immediate consequences of this were, that much of the grain that was sown, instead of germinating, burst, and that which did come forward, produced a small blighted grain, extremely deficient in quantity, and eminently unfitted for the support of animal life. Of this we had abundant proof early in the spring of the present year, by the mortality which prevailed among draught horses, many of which, even in the possession of wealthy farmers, who had given their horses the usual *quantity* of oats, fell down in the plough from mere inanition; nay, I have known some of these animals drop down in the stable from the same cause. This, it may be supposed that the nutriment contained in the hay with which they were fed, might *alone* have been sufficient to prevent; but to this it may be replied, that the hay was proportionally as deficient in nutriment as the grain, owing to its being exposed to frequent and long continued wettings, by which little more was left than the mere vegetable fibre. Cutaneous diseases and vermin also committed great ravages at that time among horses.

This deficiency, both in the quantity and quality of the different species of grain, was by no means confined to Ireland. All Europe, or, if we may trust report, the greater part of the world, shared in the distress with which it pleased the Almighty to afflict that island; but Ireland had to suffer privations which I

might almost call peculiar to herself, arising from the circumstance of the food of by far the greater number of her inhabitants being, in ordinary years, almost entirely composed of potatoes. Now, in this crop, the deficiency in quantity, as well as in the want of the nutrient principles in those that did grow, was still more observable than in the grain. The first consequence of this scarcity was, that these vegetables rose to a price far beyond the reach of the great mass of the poor, who, in their distress, were forced to have recourse to the black, coarse, and unwholesome meal or flour, produced from some of the worst of the bad barley and oats; for a large proportion of the best of both of these grains had been bought up by the brewers and distillers. To such an extent did the distress for food arrive, that many families, for a considerable time, had no better subsistence than pollard, which is the very worst produce of the flour-mills; and several of the proprietors of such mills have informed me, that the common bran was sought after with such avidity, that they left off feeding their cattle with it, that they might supply the demands of their wretched fellow-creatures, who have not unfrequently come a dozen of miles to purchase, and carry home a sack of it, to preserve the existence of their starving families! A species of wild onions or garlic, of the most nauseous flavour, called in that country '*rampe*,' was eagerly sought for; and many a delicious meal was furnished by bleeding the half-starved, and, in some instances, diseased cattle, and boiling the blood with a little barley-meal.

Much was done by the Government, and much, very much by the benevolent and affluent, and even by many who had little to spare, towards relieving the wants of the distressed, who, in addition to the wretchedness already pointed out, suffered severely from the want of fuel; for the same causes which prevented the growth and ripening of the crops, prevented also the making and drying of the turf, which almost exclusively forms the fuel of the Irish, especially of those residing in country places at all remote from the sea coast. But, in spite of all the exertions that were made in their favour, the lower classes suffered privations and distresses, such as had never before been witnessed in that country. Of these distresses the markets, as in ordinary years, were by no means a test; for, great as was the want of the common necessaries of life, the want of money was still greater. Into the causes of this, it would be no less unnecessary than improper for me to enter in this place. I shall therefore bring this prefatory part of my paper to a conclusion by stating, that, in the spring of the present year, the symptoms of typhus fever began to manifest themselves in many

of the towns, both in the north and in the south of the kingdom. I believe Cork and Newry were among the first that suffered. In that in which I witnessed it, it did not show itself till July. In some places it was earlier, in others later in its appearance.

The circumstances which I have enumerated will, I have no doubt, be considered as fully sufficient *predisposing* causes of typhus fever, and render any further search into the cause of that disease appearing, and spreading far and wide among the lower classes in Ireland, quite unnecessary. It must be confessed, that, in these classes, the application of an *exciting* cause is in general all that is requisite to produce maladies of this type, the *predisposing* cause being constantly at hand, owing to their excessive want of attention to cleanliness, both in their persons and dwellings; to their attachment to the use of ardent spirits, which is for the most part drunk undiluted; and very often to the want of a due quantity of proper clothing. The *exciting* causes are not unfrequently furnished by the habit of crowding into the close dirty rooms of the sick, and by that of sitting in as great numbers as the size of their cabins will admit, for hours, or even for whole nights, over the body of every person who dies in their neighbourhood, performing the ceremony of the '*wake;*' a ceremony which, however ancient and venerable may be its origin, would, in my opinion, 'be much more honoured in the breach than in the observance.'

It may not perhaps be amiss to mention in this place, that dropsical diseases became very rife during the summer; and cases of small-pox appeared in greater numbers than I had ever before witnessed, even previous to the valuable discovery of Jenner. A great number of those attacked were *reported* to have been formerly vaccinated; at Londonderry, in particular, great numbers who were *said* to have undergone vaccination were the subjects of small-pox, and, whether justly or not, vaccination has in that part of the country lost much of its credit as a preservative against small-pox.

Typhus having once gained a footing in any part of the country, or in any of the towns, was rapidly carried into all the houses in the neighbourhood, partly in the manner I have already stated, but chiefly by means of the shoals of mendicants, who, during the summer months, were scarcely numerable; and it was also chiefly by their means that the upper classes became infected; though it is not to be denied that there were individuals of these classes who were attacked by the malady, and some of whom lost their lives by it, who, from fear of contagion, had taken the utmost precaution to avoid it; and in some few cases the

fever could not by any means be referred to specific contagion.

In this fever, neither age nor youth seemed to confer on the possessor an immunity from attack, neither was it resisted by any temperament or condition: the only difference that I could perceive in the objects of its attack was in *sex*; and certainly among the poor, I had many more female than male patients. In the upper classes, I did not observe the same distinction. A very unusual proportion of clergymen and medical men became victims to its ravages. This, perhaps, is not to be wondered at, seeing that they were much more exposed to the influence of contagion than any other class of the community.

Neither in its commencement, progress, nor termination, did the disease exhibit any particular symptom or characteristic feature to distinguish it from *typhus mitior*, or, as it is sometimes called, '*low nervous fever*.' Its approach, when attended to, was marked by lassitude, debility, coldness of the surface, shrinking of the muscles of the limbs, and by the discharge of a larger quantity than usual of limpid urine: One or more smart rigors in some cases, marked with sufficient precision the moment of its attack; but in others these were either altogether wanting, or their occurrence passed unnoticed. These were for the most part closely followed by nausea, anorexia, anxiety, and not unfrequently a restlessness and incapacity either for study or employment. To these, if not relieved by medicine, were soon superadded pain of head, back and limbs, increase of the temperature of the surface, which also became dry and parched, with a proportional degree of thirst, and not unfrequently a suffusion of the tunica adnata. About this period of the disease, it was not unusual for it to point to some particular part, more especially to the head, throat, or breast. A costive state of the bowels was an almost universal symptom; and the stools, when procured by the use of medicine, were extremely copious, dark, and fetid. Vomiting was by no means an unusual symptom when the bowels were in the state I have just mentioned, which was indeed almost universally the case where medical aid had not been had recourse to, from the prevalence of the vulgar opinion, that all discharges from the bowels tend to add to the weakness of the patient—an opinion which I regret has but too much influence, even with some of our medical brethren.

Few patients whom I visited after the second or third day of their being confined to bed were free from petechiæ; this symptom, however, I found to be at least as much a consequence of filth, heat, and want of ventilation, as of the fever. The pulse, in most cases, increased in velocity to above 100,

and in a large proportion rose *to* or even *above* 130. The urine, which on the first attack was crude, watery, and discharged in large quantity, became, in the course of the disease, very much reduced, or at least very variable in the quantity discharged, sometimes depositing a very high-coloured sediment, at others showing no sediment whatever. The thirst was in general very great, and in some cases appeared almost insatiable. If the patient were either altogether neglected, or had been injudiciously treated, the functions of the sensorium were very apt to become affected; but it appeared to me to be no very difficult matter to put a stop to, or, what was much better, to prevent, the occurrence of this symptom. The tongue did not by any means prove an index to the state of the disease, for it was very frequently moist and clean even after several days' illness. Generally, indeed, if the fever continued so long unabated, or without having its progress checked by medicine, the tongue began to assume a white fur, which in a few days more became black and dry. In the more advanced stages of the fever, the temperature of the inferior extremities became extremely variable, sometimes being very high, at others so low that it was found necessary to have recourse to various means of increasing it. Subsultus tendinum in a low degree was very common, but not in more than two or three cases did I observe it to any alarming extent. Deafness, to a considerable degree, was very prevalent; in one young woman it existed to so great an extent, that for a week or ten days it was almost impossible to hold any communication with her by speech. Tinnitus aurium was not very distressing, but was very frequently mentioned by the patients as one of their minor complaints. A great degree of watchfulness, amounting in some to a total want of sleep, was very distressing; and this often continued for a space of eight or ten days, or more; and formed one of the chief subjects of complaint, even long after most of the others were removed.

No great degree of perspicuity or of medical sagacity seemed necessary to form a diagnosis in this disease. I have, however, really been often surprised to notice the effect that the mere name of an epidemic disease has had in blindfolding the judgment, or, as it were, muffling the *tactus eruditus* of men who, on other occasions, were by no means deficient in diagnostic abilities; and during the prevalence of the epidemic under our consideration, I have known the slightest ephemeral diseases of adults, as well as the febriculæ of children, set down as the attacks of typhus fever.

The prognosis was by no means easily formed in the early stages of the fever, nor indeed could I ever venture to give it,

without making certain reservations. Observation enabled me, latterly, among the lower classes, to give their friends good hopes of recovery, provided they implicitly followed my directions, and promised to withhold from my patients every thing that their neighbours or acquaintances might send or recommend to them, as being proper for the cure of their malady; for it is incredible to what lengths the ignorant in that country, and even many who would not choose to be reckoned in that class, go in recommending *infallible cures* for every malady 'our frail flesh is heir to,' or with what pain and perseverance these specifics are taken, provided always that they be not recommended by a medical man.

After what I have said in the former part of this paper, it will no doubt appear strange, that it was in the cases of the poorer classes of society that I was enabled to give the most favourable prognosis; but however strange, it was not less true. Poor and squalid, wretched and unprovided with every comfort as they were, their recovery was by far more probable than that of those who knew no want of either comfort or attendance. Often have I seen two, and not unfrequently three or four, of those miserable creatures huddled together, without regard to age or sex, in the same bed, covered with every thing that appeared noxious and disgusting, and in want of the only covering that would have been considered as likely to promote their recovery, by means of a very little medicine, and a very little attention, recover their perfect health, and in a short time be able to pursue their usual occupations; while those who possessed every thing that appeared necessary to their state, or likely to facilitate their recovery, either speedily fell victims to the disease, or suffered all the miseries of a protracted recovery, constantly threatened by, and often sustaining repeated, relapses.

This difference in the *violence* of the disease, or what perhaps I should be more justified in calling a difference in the *termination* of it, I was unable to account for in any other manner, than by supposing, that, although the low and unwholesome diet to which the poor had for several months been restricted, was evidently one of the principal causes of their illness; yet that 'out of that thorn *poverty* they had plucked the flower *safety*,' by being thereby in a degree prepared for the disease, and reduced to a certain state even before it had made its attack, which enabled them the more easily to elude its grasp, and to which state it required several days' illness to reduce the frame of the more affluent, the better fed, and consequently the more robust; so that, to use a common figure, the disease passed through the people as a hurricane through the forest, which merely bends

for a time the pliant willow, but uproots the unyielding oak. If, however, we admit with some authors that there are two kinds of motion in the constitution of a fever; *one* noxious, and possessing a tendency to hurt and destroy the body, and at the same time producing in it certain motions which deviate from the natural state; the *other* of a salutary tendency, produced by the operation of the *vis medicatrix naturæ*, tending to obviate the effects of the noxious power, to correct and remove them, * which latter is called the reaction of the system, if indeed the latter can be called a part of the disease. It will be easy to account for the favourable termination of the fever in those who, by bad and scanty diet, were reduced to a state too low to be capable of a powerful reaction, and why the termination was more generally unfavourable in those whose constitutions and frames were preserved in full vigour, by means of a free and generous diet, up to the very hour in which the fever began to manifest itself.

There was one circumstance belonging to the prognosis in this fever, which appeared to me to be at variance with the commonly received opinions on this subject, namely, that the danger to be apprehended was by no means in a direct ratio with the violence of the symptoms. On the contrary, I was latterly much better pleased to observe the symptoms more pointed, and so urgent as to call for immediate attention, than to hear the patient say that he did not find himself well, but could not specify any particular symptom under which he laboured. I have seen early and severe rigors, attended by early delirium, severe pain of head, and others of those symptoms which are generally recorded as affording grounds for an unfavourable prognosis, attended by no ultimate bad consequence whatever; but whenever the disease made its first appearance, and proceeded through its earlier stages in a low insidious manner, it required to be very narrowly watched; for whenever this was the case, it had generally obtained so firm a footing before either patient or attendant was aware of it, that it became a very difficult task to dislodge it; but when, in consequence of a severe onset, the debility or other symptoms became so great as to oblige the patient to take to bed, and have recourse at once to the physician's aid, it not unusually happened, that, by the early application of judicious means, the hold of the fever was at once loosened, the chain of morbid actions broken, and the fortunate patient again restored to the prospect of the speedy reenjoyment of health.

* *Vide* Cullen's First Lines, Lib. i. c. ii. § 46, and c. iii. § 59.

Severe pain in the back and limbs I did not consider an unfavourable symptom, as it went so far to mark that the functions of the brain were undisturbed. On the contrary, when no complaint was made of these pains, I frequently found some degree of sopor or delirium, attended by a distressing watchfulness, which, whether the cause or consequence of the delirium, proved not merely a very unfavourable, but a very distressing symptom; as its opposite state, an inclination to sleep, and an unwillingness to be disturbed, provided no coma were present, proved a very desireable one. Petechiæ were very common, and by no means to be feared. Indeed, as I have already mentioned, I found that they were rather the consequences of heat, and want of attention to ventilation and cleanliness, than of the disease. However, I was pleased to observe them gradually become less distinct in their appearance, and at length disappear. Quickness of pulse I regarded as an unfavourable symptom; but I often found that it gave way to the remedies which relieved the other symptoms. One of the worst cases, however, that I had, was that of a young officer, whose pulse, through the whole course of the disease, never rose above 70, and frequently did not much exceed 60; as in most other fevers, the urine becoming high-coloured, and depositing a sediment on standing, was indicative of a favourable change in the disease. In several cases, however, and in all of those cases where the brain became oppressed, a neglect of making water, and an inattention to the calls of nature in that way, was a constant symptom, and a *very bad one*. Coma and delirium, with their concomitants, suffusion of the conjunctiva, muscæ volitantes, picking of the bed-clothes, involuntary stools, and I may again mention the symptom above noticed, the inattention to the stimulus of a quantity of urine collected in the bladder, were symptoms which of course would, and did give reason to pronounce an *unfavourable*, but not altogether a *hopeless* prognosis, as I have witnessed several cases of recovery after more than one of these symptoms had been very urgent. Even subsultus tendinum and hiccup, I did not by any means find so universally fatal symptoms as they are generally *represented* to be, and indeed as they generally are *found* to be, in typhus fever. A slight degree of the subsultus was observable in a large proportion of the cases; but it was only in a few that it arrived to such a height as to be numbered among the most prominent features of the disease. The appearance of the tongue, as I mentioned before, was not of much consequence as an unfavourable symptom; but it certainly was a *favourable* one to see it throw off a black, dry, and foul crust, and become clean and moist. The temperature of the extremities, though it formed

a symptom which required to be attended to, yet it did not seem to be one that gave any indication which might assist in forming a prognosis, unless indeed in the last stage of the disease, and, when other unfavourable symptoms existed, it fell so low as to give reason to suppose that death was nigh at hand. Deafness, provided it did not appear to be a consequence of an affection of the brain, or, in other words, if the patient were sensible of it, was by no means a discouraging symptom, and appeared useful, as it served to prevent all irritation which could affect the patient through the organ of hearing. These were the leading marks by which the prognosis of any *particular* case was to be ascertained. A *general* one was, however, in my opinion, favourable; for I found the disease by no means a fatal one when the number of deaths was compared with the number of those who were attacked.

In the mode of treatment, I must, of course, be understood as confining my remarks to my own practice, unless I should particularly mention any thing to the contrary.

On being called to a patient, and on ascertaining that the disease really was typhus, the treatment varied, of course, according to the symptoms present, and according to the space of time which had elapsed from the commencement of the fever. When called in at the very onset of it, I have frequently succeeded in putting a stop to it altogether, or, if not, to arrest its progress considerably, by the administration of a combination of the sulphate of magnesia, and of the tartrate of antimony, dissolved in a large quantity of water; a small dose given every hour, and repeated for twelve or fourteen hours, let the effects produced be what they might, unless they should prove unusually violent. In this medicine, the violent effects which are often observed to follow the exhibition of the tartrate of antimony are completely prevented by the large proportion of water in which it was dissolved, by the smallness of the dose, and still more, by the disposition which the sulphate of magnesia gave it to affect the bowels: In these cases, then, the effects generally were, moderately emetic, fully purgative, and mildly diaphoretic; and in one or two, or sometimes in all of these ways, it appeared to produce the most beneficial effects. During the operation of this medicine, I had the patient's skin well cleansed, and generally relaxed by a free washing with warm water and soap, which was repeated the same day, or on the following morning. Mild tepid drinks were taken while the stomach and bowels continued to discharge their contents. After these had been thus freely emptied, I have frequently had no occasion for any further medicine; but, in despite of the use

of these means, the disease would occasionally continue its course. In that case, the skin becoming hot and dry, the head, feet, and legs particularly so, I had recourse to the application of cold water to the surface, not indeed to the extent I could have wished, but as far as I could prevail on the friends of my patients to admit of its use, which never went further than washing with cold water. In some cases I succeeded in having this generally made use of; in most, however, it was only topically applied; in some, the water was perfectly cold; in others, I was obliged to submit to an admixture of warm. In some, where the cold ablution would not be admitted, I compounded for the application of cloths wet with cold water being applied to the surface, and frequently renewed. This practice I found to be of the utmost service when the cloths were applied in this way to the head, which I generally caused to be deprived of the hair. Vinegar, or vinegar and water, were usually made use of as topical applications to the head; and cloths wet with these were incessantly applied, and renewed frequently, so long as any unusual heat or tendency to delirium manifested themselves. If, however, the affection of the head did not soon appear likely to give way to this mode of treatment, I had recourse to my lancet, and opened the temporal artery, which generally proved successful. In *one* case only did I apply a blister to the head, and it was not done until, by two days' solicitation, I had been teazed into compliance by my patient, who was a surgeon; and in that case I regretted having done so, as it prevented the continuance of the cold application to the head, which I am confident would have produced more benefit. In fact, there were very few of the patients under my care, whose heads became very seriously affected; but I knew of some in which all the symptoms of phrenitis occurred. This freedom from disturbance of the brain to any alarming degree, in my patients, I mainly attributed to the cooling plan which I pursued; for, in some cases, among the very lowest classes of the poor, where, on visiting and finding the patient quite delirious, I gave directions for opening all windows, doors, &c. in order that a free current of air might be established, I have frequently found, on repeating my visit in a few hours afterwards, that the delirium was either totally gone, or much abated. To many of my patients the application of cold water became very agreeable, and some of them became urgent for a frequent repetition. Its most usual effect was to relax the pores of the skin, and to change the harsh dryness and pungent heat of the whole surface into a soft and gentle diaphoresis, to re-

move or diminish the distressing watchfulness, and to induce a quiet and refreshing sleep.

Throughout the whole course of the fever, there appeared a great tendency to costiveness, which, if neglected, was soon accompanied by vomiting. I was extremely cautious to prevent even an approach to constipated bowels, by the exhibition of some saline medicines, repeated whenever there appeared occasion; but in some of these cases, where vomiting had supervened, and where the exhibition of purgatives given by the mouth would have, in all probability, only tended to increase the irritation of the stomach, laxative clysters were thrown up with the greatest advantage. In other cases, I was in the habit of giving, every four or six hours, a powder composed of jalap, calomel, and antimonial powder, which I found to answer perfectly well the purpose of clearing out the primæ viæ: in two or three instances the calomel affected the mouth, which appeared to me to produce rather beneficial effects.

During the continuance of the heat of the surface, the thirst was very distressing, and the desire for cold drink very urgent. In this I indulged my patients to the utmost, allowing them as much as they chose to swallow of cold water, or cold buttermilk. Of these fluids some of them drank an incredible quantity. During the hot weather, and in the more advanced stages of the disease, especially in those in whom I observed a disposition to putrescency, I gave, as common drink, water acidulated with the muriatic acid, which I found to produce very pleasing effects, not only in allaying thirst, but as an antiseptic and tonic.

I altogether avoided the use of sudorifics, with the exception of the tartrate of antimony given in the onset, accompanied by the sulphate of magnesia. I had observed, on many former occasions, that where sudorifics had been used to any great extent in the treatment of continued fever, that debility, and, as I thought, *unnecessary* debility, had been the consequence; and, in this fever, they never failed to produce or to increase the petechiæ. These indeed I paid but little attention to, and found that the cold ablutions, assisted by a free admission of cold air, soon succeeded in removing them.

Ventilation to the utmost extent of my power was made use of; but to attain *this*, various obstacles combined to oppose me. The principal of these was the prejudice of the ignorant friends of the patients, who were generally at infinite pains to stop up every cranny that could transmit the slightest current of air. This prejudice I found it much more difficult to break through than the mud-walls, or thatched roofs of their cabins, through

many of which I caused holes to be pierced, to supply the place of windows, which, if any such did exist, were carefully constructed to resist the entrance of a breath of air. The frequent changing of linen, both on the body and bed of the patient, was a point I insisted on whenever it could be accomplished. Among the lower classes of the poor, this was a *consummation*, which, however devoutly it was to be wished, could seldom be attained. In these cases I thought of Dr Gregory's alternative, —*Better no shirt at all than a dirty one.*

In the latter stages of the disease, I was very much in the habit of administering porter, either by itself, or diluted with water, and had very often the satisfaction of observing, that it served to produce sleep in many of those who had been worn out by a watchfulness of long continuance. Is this effect to be attributed solely to the influence of the hop contained in this beverage? But, besides its anodyne quality, the porter appeared to me an excellent remedy for overcoming a debility of the stomach, which often proved very troublesome after all the other symptoms of the malady had disappeared, and which prevented the patient's recovering his strength, by rejecting almost every kind of food that he swallowed; and, even in some cases, where there did not appear to be any return of the appetite for food, a moderate use of good porter procured very pleasing effects; and, when food apparently much more delicate was rejected by the stomach, oatmeal porridge, taken with porter, proved very agreeable both to it and to the palate.

I found it necessary to use very little medicine beyond what I have already mentioned. Though then unacquainted with the *three particulars* insisted on by Dr Duncan, senior, in the cure of continued fever, namely, cold air, diluents, and a strict attention to cleanliness, I followed them closely, from a conviction of their extensive, and I think I may say, general utility. I made use of camphor several times, occasionally with good effect, sometimes without any apparent benefit. In some of those cases to which I have already alluded, where the patient lay in a kind of slumber for a considerable time; in those too, in which there was coldness of the extremities appearing to depend on a want of nervous energy, I gave camphor with advantage; and, in a few cases, with the assistance of blisters to the back of the neck, it appeared to be useful in relieving severe pain of the head,—but for this latter purpose it was not often exhibited. In four or five cases, I had recourse to general bleeding. Those were cases in which, in the beginning, there appeared a more than usual disposition to synocha, and either the head, side, or breast, appeared threatened with a local congestion. They all

did well; and I feel assured that the recovery of my patients was much accelerated by the loss of blood; and should the same opportunity again be offered to me, I think I should probably make more use of my lancet than I then did.

Neither during the progress, nor towards the termination of the malady, nor even in the convalescent state, did I derive much assistance from the use either of bark or of wine. I frequently sought opportunities of trying the latter, both in the progress and retreat of the enemy, but was *always* obliged to desist from its use during the continuance of any urgent symptoms, and was *not often* able to continue it towards the conclusion. The bark I tried in various shapes, whenever a remission of the febrile symptoms would allow me, but never had any satisfaction in the use of it. It often disagreed with the stomach. If *not*, it at one time produced troublesome purging, at another obstinate costiveness, and under one or other of these circumstances, appeared to produce more harm than good; and I generally found, that a light nutritive diet proved a much speedier, as well as a much more agreeable restorative than bark. In short, every day's experience served further to convince me of the truth of an idea that occurred to me soon after the appearance of the fever, 'that the less medicine was made use of the better.' This remark, of course, requires to be received in a qualified sense, for *some* medicine was, no doubt, absolutely necessary in *every* case, but in *none* did there appear a necessity for *much*.

During my attendance on this disease, I learned the meaning and utility of an advice given by Dr Cullen, the full extent of which, I own, I did not before comprehend: it is this, that '*in fever, we should endeavour to obviate the tendency to death.*' This I take to be one of the most useful practical hints towards the cure of fever that a young practitioner can possibly receive, and one, of which, in these circumstances, he should never lose sight of; but should keep in mind, that in continued fever, there is always a natural tendency towards a termination at a given period; and that if he can only contrive to keep his patient alive, or, in the words of the learned Professor, 'obviate the tendency to death for eleven or fourteen days, he adds greatly to the chance of his recovery, and that this favourable chance will be more than proportionally increased, if he succeeds in conducting him safe to the seventeenth or twentieth day of his fever,' &c. The deaths which took place in the fever now under consideration, were in general early;—a large proportion, I think, occurred about the eleventh day. I knew some who died after having suffered twice that number of days;

but on this part of the subject, I am happy to say, that I speak less from experience than from report.

Many of my patients were affected with a sore throat, which caused them some uneasiness. This I attributed to the application of the cold water, and to their being so freely subjected to the admission of cold air, several of them having lain for days and nights with all the doors and windows of their apartments open, and covered only by a sheet and a quilt. I sometimes found it necessary to order some medicine for the relief of this symptom, but in no case did it prove obstinate. Latterly, in order to prevent its occurrence, I was in the habit of applying a piece of flannel round the neck early in the disease; after which I did not hear much of the complaint.

I was very particular in having all unnecessary furniture removed from the apartments of the sick, especially bed curtains, wearing apparel, and in general, all soft materials, whether furniture or otherwise.

The convalescent stage I found a very difficult one to manage, and relapses were very common. This appeared particularly in those whose health and appetite for food returned more suddenly, than among those whose recovery appeared more lingering: I therefore became particular in restraining the appetite of the former, as well in the quantity as in the quality of their food, and in paying a scrupulous attention to the state of their bowels.

Various circumstances prevented an examination of the bodies of any of those who died; in fact, such a proposal there would have been received with horror; and an attempt to do it by stealth would, if discovered, have completely ruined the prospect of any medical man who would have made it.

Edinburgh, December 1817.

VI.

Case of Typhus, attended with Trismus and Amaurosis. By John Astbury Barlaston.

Miss — aged 30, of a delicate and irritable habit, and a weak digestion. She walked out on the 5th October 1800, when she had the catamenia; she got her feet wet, and sat all day in her wet shoes. The catamenia became suppressed, and she complained, on the 6th, of great pain in her head, sickness, loss of

appetite, shiverings; was thirsty, very hot and restless; her bowels were open, pulse 120 and feeble, tongue dry. On the 7th, the symptoms continued, and she took a saline medicine with Pulv. Jacob. gr. ij. sextis horis. 8th, She complained of great pain and confusion in her head; towards evening she had several evacuations; and both urine and stools were passed involuntarily, and she became delirious. On the 9th, in the morning, I saw her, the first time. Her pulse was 120, rather feeble and irregular; there was a great degree of subsultus tendinum, her breathing was laborious, she sighed much, was frequently picking at the bed-clothes, and very quick in her answers: At times she was delirious; she was very thirsty; the tongue was brown and dry; her skin was hot and dry; her urine and stools were passed involuntarily; the catamenia returned that morning. I directed some port-wine negus to be taken when the state of the pulse required it; her head to be washed with cold vinegar and water, several times in the day; for diet, broths and sago, with lemon-juice; to eat grapes and ripe fruit. I ordered the following medicines.

℞ Pulv. Jacob. gr. ij.
Pulv. Rhei gr. iij. ad. gr. x. m. f. pulvis quartis horis sumend.

℞ Misturæ camph. ℥i. Aq. cinnam. ℥ss.
Kali gr. x. m. f. haustus tertiis horis sumendus cum coch. duobus parv. suc. limon. in statu effervescentiæ.

10th.—She had passed a restless night; her skin was very hot and dry; at times she talked incoherently, but was not so delirious as on the preceding night; pulse 120; tongue dry and brown; considerable subsultus tendinum. As she had no stool for twelve hours, an enema was directed, which procured a large fetid stool, and she voided her urine at the same time. Her medicines and regimen were continued. On the 11th, in the morning, she was more collected; her skin was cooler, and more moist; the tongue was cleaner; the menstrual discharge went on regularly; pulse 116; subsultus tendinum less; she had, at times, some confusion in the head; her breathing was more regular; she had one stool, and was sensible twice, when she wanted to void her urine. Her medicines and regimen were continued. On the night of the 11th, there was an exacerbation of the fever, and she passed a very restless night, but was not delirious; her skin was hot and dry; pulse 120, and rather irregular and feeble; breathing more laborious; considerable subsultus tendinum; tongue dry and brown; she had a large fetid involuntary stool, and voided her urine at the same time; her medicines and regimen were continued. On the 12th, her

skin was more cool; she complained of confusion in her head; her evacuations by urine and stool were involuntary; she was frequently picking at the bed-clothes; pulse 116; the catamenia had ceased; the tongue was cleaner; her breathing more easy; subsultus tendinum less; she complained of pain in the legs and thighs. As she had very little sleep, an anodyne enema was directed, and her medicines and regimen were continued. The 13th, she was more quiet after the anodyne enema, but got very little sleep; she had one involuntary stool, but was sensible at times when she wanted to void her urine; pulse 110, and more regular; skin cooler; tongue dry and brown; subsultus tendinum less. Her medicines and regimen were continued. 14th, She remained calm and cool, until eleven o'clock at night, when she became very delirious, and refused taking either medicines or wine negus. The anodyne enema was repeated; she remained quiet after it, but got no sleep; she had one involuntary stool, and voided her urine involuntarily; her pulse was 116, very irregular and feeble; considerable subsultus tendinum, and she sighed frequently. On the 15th, the skin was more cool and moist; she talked sensibly, and had dozed at times; she took some sago with wine, and took her medicines; she had two copious fetid involuntary stools, and voided her urine involuntarily; the pulse was 106, and more regular; her breathing more natural; the tongue was still brown, but more moist. Her medicines and regimen were continued. The 16th, she passed a quiet night, but had very little sleep; her breathing was free and natural; countenance calm and composed; pulse 106; she complained of twitchings in her arms and shoulders; her tongue was more moist; skin cool; she had one involuntary stool, and voided her urine at the same time; her medicines and regimen were continued. On the 17th, Mr Bourne, her surgeon, saw her early in the morning, and, in his letter, dated that morning, he says, 'Our patient has passed a good night, but when she awoke, the nurse observed her more stupid; I found her very much convulsed; her hands and arms so contracted, that you might as easily break the bones as pull the arms out of bed.' I saw her that morning, about eleven o'clock. I observed she could not open her jaws so as to admit a grape; the arms and shoulders were a good deal convulsed, but less so than when Mr Bourne saw her; she seemed sensible when spoken to, but could not articulate; her pulse was 106, and feeble; her breathing was easy; countenance composed. As she had no stool during the night, an enema was ordered, which procured an evacuation both by stool and urine. As her jaws could not be opened by force, so as to take but a very

small portion of wine and nutriment. I directed the following enema:

℞ Lactis recentis ℥iv.
Pulv. cort. Peruv. ʒij.
Spir. Vin. Gall. ℥i. m. f. enema tertiis horis injiciendum, et quamdiu retineri possit retinendum.

Sixty drops of tinct. opii were added at night to the enema. I was afraid to add laudanum more frequently to the injection, for fear of impeding the action of the absorbents in the rectum, as upon their proper action, under existing circumstances, my patient's life depended. The jaws and neck were directed to be rubbed with the volatile liniment with camphor. Early in the afternoon the jaws became closed, so that nothing could be taken by the mouth. On the 18th, the jaws continued firmly closed; she seemed sensible when spoken to; she was very restless; the pulse was 106, and very feeble; she had one large involuntary stool, and voided her urine involuntarily. Six drachms of strong mercurial ointment were directed to be rubbed into the neck and jaws; sinapisms were applied to the feet, and a blister to the head. The bark injections were continued on the 19th. None of the remedies had any effect on the jaws, which continued firmly closed. The arms, wrists, and shoulders were so firmly contracted, that Mr Bourne, in his letter of the 19th, says, 'When I attempted to pull her arm out of bed to feel her pulse, the body followed.' During these days, the breathing was tolerably free; the countenance composed; the pulse was from 104 to 106, extremely feeble, at times irregular; the bowels were open, and she passed both urine and stools involuntarily; the bark injections were continued. On the morning of the 20th, electricity was first tried, and several smart shocks were passed through the jaws, which were opened, and she took nourishment. In about half an hour afterwards, the jaws became again closed, and were obliged to be opened by electricity every time she required food, for several days; the bark injections were continued, and bark draughts were taken by the mouth; and as the debility was so great, she took wine mixed with brandy, and the most nutritious diet.

On the 22d, the mercury affected the salivary glands, and made the throat sore, but did not seem to affect the jaws. She continued to take bark draughts, and plenty of nourishment. I did not hear again from my patient until the 26th of October, when Mr Bourne, in his letter of that morning, says, 'Our patient has passed two good nights, getting a good deal of sound sleep; she is perfectly sensible; complains much of the soreness of her throat.' I endeavoured to look into it; but notwith-

standing she can open her jaws sufficiently wide for all the purposes of nourishment, yet she cannot extend them sufficiently wide for me to inspect her throat. Electricity was ordered to be discontinued; the bark draughts were continued; her bowels were open; the skin cool; tongue moist; pulse from 86 to 90; she was sensible when she wanted to void her urine or go to stool; she took plenty of nourishment. She had been troubled for two days, at times, with a distressing hiccup; in three days afterwards, a complete amaurosis came on, and continued for more than a week, so that she could not distinguish noon-day from midnight, and a lighted candle, applied to the eyes, had no effect on the pupils. She continued to take bark draughts and plenty of nourishment, and slowly improved in strength. I did not hear from my patient again until the 10th of November, when Mr Bourne informed me that her eyesight began to return; though she continued feeble, yet she gradually improved in strength. On December 2d, 1800, Mr Bourne informed me, 'That my patient still continued in a feeble state, though improving in strength; that when he proposed to her to change her room, she said she had not the least recollection of any room in the house, though she was at home.' She was able soon after to go out in a carriage, and perfectly recovered, and is alive at this time.

Observations.

It is worthy of remark, that this patient, who was very delicate and feeble, could be supported, for three days and nights, by absorption, from so small an extent of the alimentary canal as the rectum, and, perhaps, a small portion of the colon, during a very debilitating disease of fifteen days' continuance,—when the secretions in the bowels were in a diseased state, as is always the case in typhus,—and when, from the great emaciation which takes place, and the large evacuations in proportion to the quantity of food taken, there is every reason to believe that the absorbents act very slowly and imperfectly on the aliment taken into the bowels.—*Note.* In cases of diseased œsophagus, when the bowels are *in a healthy state*, patients are often supported a considerable time by nutritive glysters. In this case, though there were some symptoms of tetanus combined with trismus, it differed very materially from two unfortunate cases of tetanus combined with trismus which I have seen, (and from other cases recorded); one from a gunshot wound in the hand, the other from a laceration of the arm, in the cotton works of Mr Thompson. Both were patients of Mr Coombe, a very ingenious surgeon in Newcastle. In these cases, the jaws were often

closed, so as to admit nothing into the mouth; at other times they were open so as to admit food and medicine; but the *muscles of deglutition were so extremely irritable*, that, as soon as either food or medicine came in contact with them, they rejected it with the greatest violence, and the patients died, exhausted by general convulsions and want of food. In both cases, large quantities of laudanum, in glysters, were injected, and the warm-bath was frequently repeated without any good effects; in both cases, the wounds looked healthy, and the healing process went on well so long as life remained. In the case of my patient, the muscles of deglutition and the tongue were in a healthy state, and, when the jaws were opened by electricity, performed their functions properly, and she swallowed her food well. The muscles of the face and back were likewise free from convulsions; I made strict inquiries whether my patient had by any means injured either a nerve or a tendon; but I could not trace the least injury. Her chief amusement had been netting, and she had not made use of a needle for many months. Both my patient and myself are much indebted to Mr Bourne, for his very great attention in this case; and I am happy in this opportunity of paying due respect to the superior talents of Mr Bourne, in his profession, which will entitle him to the esteem of his neighbourhood.

Newcastle, Staffordshire,
December 1817.

VII.

Observations on certain Dropsical Affections which are successfully treated by Blood-letting. By J. Abercrombie, M.D. Fellow of the Royal College of Surgeons, Edinburgh.

Perhaps we have been too much in the habit of considering dropsy as a disease of debility. This opinion seems to have had its origin in the doctrines of the humeral pathology, according to which, dropsical diseases were supposed to be preceded by a morbid tenuity, and accompanied by a morbid viscidity of the blood. The effect of the morbid tenuity was believed to be, that the thinner parts of the blood escaped through the smaller vessels into the various cavities of the body, leaving in the blood-vessels a fluid of morbid viscidity or tenacity, and so much diminished in quantity, as to be wholly inad-

equate to the wants of a healthy body. The smallest evacuation of blood was contemplated with terror in both these conditions; in the former, by its supposed effect in increasing the tenuity; and, in the latter, by diminishing the quantity of blood, already too small for the purposes of life. The humeral pathology has long since given place to a new series of hypothetical doctrines, equally satisfactory to their inventors, as that was to the venerable names with which it is associated; but I am doubtful whether it has not continued, in some degree, to influence our practice, particularly in a dread of blood-letting in dropsical disorders, even when symptoms exist, which, under other circumstances, would be considered as requiring that evacuation.

Some of the older writers had observed cases of dropsy, in which blood-letting was both admissible and useful. Paulus Ægineta recommends it in those dropsical affections which arise from suppression of the hæmorrhoidal or menstrual discharge. Alexander Trallianus treats of certain cases of anasarca, which he supposed to arise from a superfluity of 'cold blood,' and in which blood-letting is useful, 'by relieving nature of a load:' And Hildanus relates the case of a young man, who was cured of great and general anasarca, by a hæmorrhage from the nose to the amount of four pounds.

In modern times, the subject has excited the attention of some German writers, who treat of a modification of dropsy, which they have named hydrops plethoricus.* In this disease, according to the writers alluded to, much relief has been experienced from copious hæmorrhage by the nose; and the most successful treatment has been found to be upon the antiphlogistic plan, by repeated small bleedings, and purging with neutral salts. Dr Blackall, also, has thrown considerable light upon this subject; and has successfully combated the opinion of a watery state of the blood, by showing that, in many dropsical affections, the blood is buffy, and that albumen is discharged by the urine in great quantity.

I by no means intend to maintain that dropsy is never a disease of debility, but that it is not necessarily so. It very often exists in connexion with a feeble, relaxed, and exhausted state of body; but it may also exist in a state of the body directly the reverse of exhaustion, and even in immediate connexion with symptoms of an inflammatory nature. This, I think, will

* Grapengiesser de Hydrope Plethorico; Engelhard in Museum der Heilkunde, IV. B. p. 95. Mayer Samml. med. Beobachtungen, p. 505.

be admitted, if we take a short review of the principal circumstances under which dropsical effusion takes place in the cellular membrane, or the great cavities.

1. Dropsical symptoms frequently appear in an exhausted and debilitated state of the body; as after great loss of blood, in the advanced stages of phthisis; at the conclusion of tedious fevers; and in persons worn out by bad air, and improper nourishment.

2. Dropsical effusion often appears as the immediate consequence of inflammatory action. I believe it is now generally admitted that hydrocephalus acutus is of this nature; and we also find copious effusion of serous fluid in the cavity of the pleura after inflammation of the lungs, and in the abdomen after inflammation of the bowels or the peritonæum.

3. Circumstances which impede the return of the venous blood towards the heart, seem to be among the most common causes of dropsical effusion. A limb which has been too tightly bandaged becomes œdematous below the seat of the pressure; a tumour in the axilla produces œdema of the arm; an enlarged ovarium produces œdema of one leg and thigh, and, as it increases in size, affects the other in the same manner; the gravid uterus produces the same effect; an enlarged and hardened liver, compressing the vena cava, occasions dropsy of the abdomen and lower extremities; and various diseases of the lungs, and of the heart, impeding the transmission of the blood through these organs, are familiar to us as causes of general dropsy. Now, even in the most vigorous and plethoric state of the body, a tightly bandaged limb will become œdematous; in the same condition, an enlarged ovarium may produce a similar affection; and, in the same state of the system, may not the heart or lungs become diseased in such a manner, as, by the interrupted circulation, to induce dropsical effusion? In many cases of this nature, might not a diminution of the quantity of blood, by facilitating the transmission, diminish the tendency to effusion? And if the disease of the heart or the lungs were of a temporary nature, and itself capable of being removed by blood-letting, would not this evacuation be, not only a safe, but an indispensable part of the treatment? Such appears to be the nature of the dropsical affection on which I am to offer some observations; and, without entering further into theoretical discussion, I shall proceed to describe the disease as it has frequently occurred to me in practice.

The disease comes on suddenly, and generally affects persons in the vigour of life. It is usually ascribed to sudden exposure to cold, especially after the body has been previously over-heat-

ed. The first symptom is an oppression and uneasiness in breathing; and in a short time, frequently in a few hours, or in the course of the same day, this is followed by the dropsical swelling. The affection of the breathing varies considerably in different cases. In some cases, there is only a feeling of oppression and tightness in breathing, without pain or cough; in others, the breathing is quick, short, and frequent; in some, there is pain, increased by a full inspiration, with sharp painful cough: and, in others, there is great oppression of breathing, preventing the patient from lying, except in one particular posture, or even preventing him from lying down at all. The pulse is, in some cases, a little frequent, but, in others, it is not above the natural standard. It is sometimes of good strength, but frequently rather weak, and in some cases irregular. The anasarcous swelling is commonly observed first in the face; from this it extends downwards upon the trunk of the body, and then to the extremities. This progress was in one case so remarkable, that even at night, after the patient had been sitting up through the whole day, he was affected with a great degree of anasarca, down to the middle of the legs, while the feet and ankles were free from it; next day, the feet and ankles were affected also. This peculiarity, however, does not occur universally, for, in some cases, the swelling is first observed in the legs; but, in general, the face is affected at a very early period. The urine is scanty, and high-coloured; in some cases it is coagulable, but, in others, there is no trace of albumen. If the disease be now allowed to go on, the swelling increases, and the breathing becomes more and more oppressed: it may be fatal in a few days, or it may be drawn out to several weeks.

Treatment.—The most decided benefit is experienced from early and free blood-letting; and, in a recent case, it is to be repeated till the pulmonary symptoms are relieved. This effect I have generally observed from one or two full bleedings; and it is to be kept in mind, that, in such cases, the strength of the pulse is a very uncertain guide; for, when the transmission of blood through the lungs is much impeded, we frequently find that the pulse is small, and even irregular; and that it improves in strength, and becomes regular, after copious blood-letting. When the pulmonary affection is removed, the dropsical swelling often disappears, without the use of any remedy; and if the case has been recent, and treated with decision, this happens so rapidly, that, on the second day of the treatment, the swelling may be gone. In these cases, the urine, which was scanty and high-coloured, becomes copious, and of a natural colour, almost immediately after the pulmonary affection

is removed. If the disease has been of longer standing, the progress may be slower and less favourable; and, even after the pulmonary affection has been entirely removed, a course of diuretics may be required for carrying off the swelling.

These different states of the disease will be illustrated by the following examples.

Case I.—Mrs A. aged about 40, (28th November 1815), was affected with cough; oppression of the chest; a feeling of tightness in breathing; and considerable pain under the sternum, which was increased by the cough, and by a full inspiration. There was general anasarca, which was first observed in the face, but was most considerable on the limbs. Pulse of natural frequency, and good strength. Had been ill about a week. Urine scanty, and not coagulable.

Was bled to ℥xx. To take diluted sulphuric acid, and liquorice lozenges.

29.—The breathing was easier, but not quite relieved; swelling diminished.

Was bled again to ℥xv.

30.—Breathing quite relieved; anasarca gone; urine copious.

Dec. 6.—Continued free from complaint.

Case II.—Mr H. aged 26, (5th June 1817), was affected with general anasarca, which was very considerable, on his legs and thighs, and in a smaller degree on his body and face; his voice was tremulous and anxious; his breathing was quicker than natural; and he felt a degree of tightness and oppression in breathing, but without pain and without cough; pulse a little frequent, and rather small; urine scanty, and high coloured, and not coagulable. He first felt his breathing uneasy on the morning of the 2d; in the course of that day he observed the swelling in his legs, and a little in his face; it had been increasing every day, and extending higher up.

Was bled to ℥xvi. To use diluted sulphuric acid.

6.—Breathing quite relieved: swelling gone; urine still thick and scanty; pulse 76; blood not buffy.

7.—Free from complaint; urine copious, and of a natural appearance.

9.—Continued well, and resumed his usual employment.

Case III.—Peter M'Phail, a printer, aged 46, (3d December 1817), was affected with a great degree of anasarca, which had been first observed in his face; it was most considerable on the

trunk of the body, less on the thighs and legs, and there was none on the ankles and feet, though it was then night, and he had been sitting up through the whole day. He had great tightness and pain of his chest, increased by a full inspiration; his breathing was much oppressed; in the horizontal posture it was extremely distressing, and he could only lie on the right side. The pulse was quite natural; the urine scanty and coagulable. He had been ill four days, and was attacked after sudden exposure to cold after being overheated.

Was bled to ℥xx.

4.—Breathing much relieved; could lie in any posture without uneasiness; swelling had extended to the feet and ankles; urine about ℥vi. in 24 hours.

5.—Breathing easy; urine rather increased; swelling as before. To take the usual diuretics; squill; tincture of digitalis, with nitrous ether.

6.—Slight oppression of the breathing; pulse 70; urine increased; swelling gone from the face; no abatement of it in other parts.

Was bled to ℥xii.; diuretics continued.

7.—Breathing quite relieved; blood had a firm coagulum and a buffy coat; urine increased; swelling diminished.

9.—Little change; urine lb. ij. and coagulable. The coagulum separated by expression through a linen cloth, and made as dry as it could be made by such expression, weighed 22 drams. The watery part which remained had all the qualities of healthy urine. When it was evaporated to the consistence of a syrup, and nitrous acid added, urea was deposited in abundance.

13.—Swelling as before; breathing quite easy; pulse 60. The doses of the diuretics were increased, and a mercurial pill given twice a day.

15.—Swelling diminished; urine lb. iij. and coagulable. The coagulum from lb. ij. separated as before, weighed ℥x.

24.—Urine lb. iv.; swelling abating.

30.—Urine about lb. v.; coagulum from the whole ℥ix.; swelling much diminished; all the functions natural.

Jan. 4th.—Urine from x. to xii. lb. Swelling nearly gone.

8th.—Urine lb. viiss.; coagulum from the whole ℥iij. Swelling gone, except a little about the ankles at night.

29th.—Free from complaint, and much improved in flesh and strength. Urine still coagulable.

From this time he continued to improve, and soon returned to his usual employment. But it was several weeks before his urine was free from coagulable matter.

For the following case I am indebted to a friend, a practitioner of eminence.

Case IV.—A woman, aged 28, (6th July 1814), was affected with anasarca of the whole body, severe cough and difficulty of breathing, amounting to orthopnœa; expectoration copious, and tinged with blood; pulse 130, small and irregular, but was counted with difficulty, owing to the œdema of the wrist; thirst; loaded tongue; urine scanty and high-coloured; sleep much disturbed by starting and dyspnœa. The pulmonary affection had begun about eight days before. On the evening of the same day she first observed her feet and legs to be swelled.

7th.—A blister was applied to the breast without relief.

8th.—Was bled to ℥vii. and diuretics given.

9th.—Breathing less oppressed; œdema diminished in the face; pulse 104, small, but regular.

Was bled to ℥viij.; diuretics continued, with the addition of a little mercury.

10th.—Dyspnœa and œdema diminished; pulse 96; urine lb. iv.

11th.—All the symptoms increased.

Was bled to ℥xiv.

12th.—Much relieved in every respect; blood a little buffy in the last cup.

14th.—Continued to improve.

19th.—Free from complaint.

Case V.—Was under the care of my friend, Mr Clark.—Veitch, a porter, a very stout man, aged 35, (15th October 1817), was affected with extensive anasarca of the lower extremities and of the genitals; he had cough, and a great degree of dyspnœa, which was most severe in the horizontal posture; he could not lie on his left side; he lay with greatest ease on his back; sleep much disturbed by starting and breathlessness: pulse 72, and not strong. He ascribed his complaint to exposure to cold on the 9th, by standing in the open air, without his coat, after being overheated, and in profuse perspiration. Next morning he felt his breathing uneasy; the swelling was first observed on the 11th. On the 14th he had bleeding from the nose, which recurred several times.

He was bled to ℥xxiv. and was ordered a purgative of jalap and calomel.

By this bleeding his breathing was immediately and completely relieved; he could lie in any posture, and there was no

return of dyspnœa. On the following day the swelling was considerably diminished. He then took some diuretics, with occasional purgatives; the remainder of the anasarca subsided gradually, and was gone in eight or ten days.

In regard to these cases, I have only to add one important circumstance. The persons who were the subjects of cases 1st, 2d, 3d, and 5th, have continued free from the slightest return of the disorder to this time, (27th February 1818.) I am not acquainted with the subsequent history of case 4th.

Let these examples be now compared with the following cases.

I.—A woman, aged 20, was affected with frequent small pulse, cough, and thirst; there was anasarca of the legs, which increased rapidly, and affected the hands, the arms, and the face. She complained of a sense of heat in the left side of the thorax, tightness of the præcordia, and difficulty of breathing, which increased rapidly, and she died in a few days.

On dissection, the lungs were found hardened, and appeared as if they had been affected with inflammation. There was copious effusion in the thorax, and a little in the abdomen. The spleen was larger than natural. *

II.—A woman, aged 26, was seized, after perturbation of mind, with swelling of the whole body; difficult and laborious breathing; great sense of weight in the thorax; and great thirst. The difficult breathing increased rapidly, and was fatal. On dissection, the lungs were found hard and red, and covered with various black spots. There was much water in the thorax, and a little in the abdomen. The liver was much enlarged, and the ovaria were indurated. †

III.—A woman, aged 25, who was convalescent from fever, and who was also affected with itch, was suddenly attacked with universal dropsy. It was to such a degree in her face, that her features could not be recognised. Her pulse was 130, and weak; her breathing was quick and oppressed; and, after two days, the difficulty amounted to orthopnœa. The cutaneous disease disappeared. She took purgatives and diuretics with temporary relief; but the symptoms returned, and she died about a fortnight after the first appearance of the anasarca. On

* Morgagni de Causis et Sedibus Morborum. Ep. xvi. § 2.

† Morgagni, (ibid.) § 4.

dissection, much fluid was found in the cavities of the pleura, pericardium, and peritonæum. The right lung was unusually dense in its structure, and adhered to the pleura costalis; the left was inflamed on its surface. There was also an appearance of inflammation on the peritonæum. The liver, spleen, and pancreas, were enlarged and soft. *

I think it unnecessary to detail more examples. The facts which have been related, appear to authorize the following conclusions.

1. That the primary disease is an affection of the lungs, probably of an inflammatory nature.

2. That this affection, by impeding the circulation through the lungs, gives rise to the dropsical effusion.

3. That the affection of the lungs may be removed by blood-letting.

4. That the cause being thus removed, the dropsical effusion will, in many cases, disappear spontaneously, and almost immediately: in others, it will require to be removed by the ordinary diuretics.

A very important circumstance in the history of this disease is, that the affection of breathing may exist without pain and without fever. In such a case, from its combination with the anasarca, there may be danger of ascribing it to effusion in the thorax. The diagnosis perhaps is difficult, but I think it forms a very important subject for investigation, whether affections of the breathing are not sometimes ascribed to sudden effusion in the thorax, which would admit of being treated by blood-letting.

In the cure of this disease, it will be evident that the treatment by blood-letting can only be adopted with success at a very early period of the attack. If the disease be allowed to gain ground, mischief will speedily be done to the lungs, which will be irremediable: for if the indurated state of that organ has taken place, it is extremely doubtful whether any treatment can remove it. If the induration be extensive, it must be speedily fatal, as in a common case of peripneumonia; if less extensive, it will be the source of difficult breathing, aggravated by slight causes, and of successive attacks of dropsical effusion, which, though repeatedly carried off by diuretics, will regularly return after certain intervals, and at last be fatal.

The dropsical swelling which follows scarlatina, is generally a slight and transient affection, yielding readily to purgatives and diuretics. More violent cases of it, however, occur, which

* Dr Perceval in Dublin Hospital Reports, Vol. I. p. 253.

resist this mode of treatment, become rapidly worse, with difficult breathing, and in a short time are fatal. Without attempting at present any general conclusions in regard to the nature of this affection, I submit the following cases.

Case I.—J. Nelson, a child aged two years and a half, about eight or ten days after he had recovered from a mild attack of scarlatina, was observed to be anasarcous in the face; the swelling increased, and extended over other parts of his body; and, at a very early period of the complaint, his breathing was observed to be oppressed. The pulse was frequent and rather small; the urine very scanty. The swelling increased; the breathing became more and more difficult; all the usual remedies were employed without benefit; and the child died about the 10th day from the first appearance of the anasarca. *On dissection*, considerable effusion was found in both cavities of the thorax, and a little in the abdomen. The lungs were dark-coloured and remarkably indurated, so as to resemble the structure of liver. This was most remarkable in the right lobe, pieces cut from which readily sunk in water.

Case II.—A boy aged 5 years, who had recently recovered from a smart attack of scarlatina, was first observed to be anasarcous in the face about the 10th of June 1817. The swelling increased rapidly, and extended downwards on the body. The usual diuretics were given; his bowels were spontaneously so loose, as to leave no room for purging: urine very scanty and not coagulable. From a very early period of this affection, his breathing was observed to be oppressed; this was most remarkable during the night, which was passed with much moaning and restlessness. The swelling increased, and the uneasiness in breathing increased along with it; the latter becoming quick, short, and oppressed. There was no cough, and he complained of no pain. On the 15th, every symptom continued to increase; his breathing was from 44 to 46 in the minute, short and oppressed. The swelling had increased so much in his face, that his eyes were nearly shut; it was so great on his body that his clothes would not button; it was very considerable on the thighs and legs; but the feet and ankles were free from it, though he was sitting up. The pulse was 90 and of good strength; urine very scanty, the diuretics having produced no effect.

I now bled him from the arm to ℥iv. and continued the diuretics, the dose of them being a little increased.

16.—His breathing was much relieved immediately after the

bleeding; it was still rather more frequent than natural, but soft and without oppression. Urine increased.

17.—A good night; pulse and breathing natural; swelling much diminished; unmanageable from playfulness. Urine copious.

19.—Swelling gone, except a little on the legs; pulse and breathing natural.

21.—Free from complaint.

These two cases bear a remarkable analogy to the disease which forms the subject of this paper, and, though they do not warrant any general conclusions, they seem to present a very interesting subject for further investigation. It was long ago taught by Burserius, that the dropsy, which follows scarlatina, has often an inflammatory origin. He divides the complaint into two species, which he calls 'calidus,' and 'frigidus.' The latter, he says, is a disease of debility, and is accompanied by a weak languid pulse, without fever. The former is attended by heat of the surface, strong frequent pulse, thirst, and difficult breathing. This important distinction (he adds) was first made by the physicians of Florence, about the year 1717, who found on dissection that this acute, or calid dropsy, was combined with extensive internal inflammation, chiefly of the lungs, pleura, diaphragm, kidneys, and intestines. Hence they concluded that this inflammation was the primary disease, and treated it by blood-letting. All that were treated upon this plan recovered; the cases that were treated by diuretics were speedily fatal. *

The disease which I have endeavoured to describe in this paper, seems to be distinctly defined. It is characterized by the sudden appearance of dropsy in a person who was previously in good health, accompanied by a recent oppression or uneasiness in breathing. Some cases of it bear a considerable resemblance to hydrothorax; and I see no objection to the supposition, that effusion in the thorax may really exist. Such effusion is met with in the fatal cases; and I think we may reasonably conjecture that it may exist in some of the favourable examples, and may be absorbed after the cause is removed, in the same manner as we see it absorbed from the cellular membrane. It would be an inaccuracy in language to talk of such cases, as

* Burserii Institutiones Medicinæ Practicæ, Vol. II. p. 81.

See also a paper by Dr Wells, in the Transactions of a Society for the Improvement of Medical and Surgical Knowledge. Vol. III. p. 167.

examples of hydrothorax cured by blood-letting. The blood-letting, I have endeavoured to show, removes an affection of the lungs which is the cause of the effusion. The cause being thus removed, further effusion ceases, and the fluid already effused disappears by absorption. I have some reason to believe, that there are cases of ascites connected in the same manner with active disease in the liver, in which blood-letting may be used with advantage. Of this, however, I cannot at present produce a satisfactory example.

Our pathology of dropsy is obscure and unsatisfactory; and on this account our practice is in many cases deficient in precision, and consequently in activity. Perhaps it is in general too much directed merely to removing the effused fluid, without sufficient attention to the cause of that effusion. In many of these affections, indeed, the causes are sufficiently apparent, and obviously beyond the reach of practice. To this class belong all those dropsical affections which are connected with organic diseases of the heart, indurations of the lungs, enlargements and indurations of the liver, spleen, ovaria, &c. These cases in general admit only of palliative treatment, by evacuating the fluid from time to time by diuretics and mercury,—by drastic purgatives, or by the operation of tapping. In a few of these, however, it is probable that more active practice might be employed, with considerable, though temporary, benefit. I allude to the organic diseases of the heart. In many cases of this kind, the system is, in other respects, sound and vigorous. The dropsical symptoms are evidently connected with the impeded transmission of blood; and I think it probable, that, in many of these, blood-letting might be employed with considerable relief, and that, instead of increasing, it might diminish the tendency to dropsical effusion.

I do not decide whether the following case was of this nature, but it was probably connected with some fixed disease in the thorax, and does not promise a permanent cure. Blood-letting, however, was employed with evident benefit in alleviating the symptoms, which were very urgent.

Thomas Maclaren, a glass-blower, aged 48, was a patient in the clinical ward, under the able management of my friend Dr Duncan junior, (10th January 1818.) He was affected with anasarca of the whole body, which was greatest on the lower extremities and the scrotum; cough and severe dyspnœa. His breathing was quick and short, with a rattling sound, a severe sense of tightness and oppression of the præcordia and acute pain, which were increased by a full inspiration and by pressure on the epigastrium. The pulsation of the heart was felt as low

as the ensiform cartilage, even when he was laid on his back. His face was bloated and turgid; his pulse 100 and small; he could only sleep in a semi-erect posture, and often awoke in a fright; urine scanty and turbid. The complaint was of six months' standing: the symptoms had been increasing gradually.

12th.—Was bled to ℥xii. and began to take diuretics and mercury.

13th.—Much relieved; pulse 88, moderately full and regular.

16th.—Improved rapidly; urine lb.vi.

From this time he improved daily, and was dismissed on the 26th. At that time he was free from anasarca, his countenance was healthy, his breathing free and natural, and he could ly in any posture without uneasiness; his pulse was 92 and regular. Several weeks after, Dr Duncan heard that he continued well.

The modifications of dropsy in which the pathology is most obscure and most difficult, are those which are not accompanied by disease in any of the viscera. These have, in general, been classed indiscriminately among the cachectic diseases, and have been referred to a debilitated state of the system. The accuracy of this conclusion, however, is very much to be doubted. Various systematic writers have treated of a modification of dropsy connected with a loaded or plethoric state of the blood-vessels, in which, according to their doctrine, effusion takes place in consequence of the increase of 'lateral pressure.' * Whatever importance we may attach to this hypothesis, I suspect the distinction is worthy of some attention in practice. Sauvages relates the case of a young woman, who became suddenly dropsical over the whole body a few days before the menstrual period; when the menstrual discharge took place, the dropsical swelling disappeared. The swelling returned at the same time, and disappeared in the same manner, for several successive periods, till at length, by a course of treatment which he describes, it was prevented from taking place. † Hoffman describes the case of a woman, 30 years of age, previously strong and healthy, in whom the menstrual discharge was in general remarkably copious. Having suffered from a fright immediately before the menstrual period, the discharge did not take place, and she was seized with languor, loss of appetite, and dropsical swelling, to such a degree, that the integuments on the feet burst, and discharged serum in great quantity. The menstrual discharge

* Sauvages, Anasarca metastatica—Hydrops calidus.—Bacher, Hydropisie par plethore et tension.—Frank, Hydrops acutus.—Stoll, Hydrops plethoricus.

† Sauvages, Nosologia Methodica, Vol. II. p. 471.

having taken place at the next period, all these complaints were removed. * Similar symptoms are described in connexion with suppression of the hæmorrhoidal discharge, after it has become habitual, as in the case of the Emperor Trajan, which is related by Dio Cassius. Dr Cheyne mentions a man, aged 67, who had been, for several years, very liable to dyspnœa and anasarcous swelling of the legs. He was seized with apoplexy, and was saved by copious and repeated blood-letting. 'His constitution rallied after his illness,' says Dr Cheyne; 'the swelling of his legs subsided, and they have continued fine ever since.' †

These cases certainly indicate a state of the system very different from that which we understand by the term cachexia. Such affections, I believe, are usually treated upon the plan of merely evacuating the effused fluid. It forms an interesting subject of investigation, whether they would not admit of more active treatment.

To this class of dropsical diseases is perhaps to be referred a dropsical affection of a dangerous and insidious character, which attacks women about the time of the cessation of the menses, and often affects those who were previously remarkable for health and vigour of constitution. It may begin as the period of cessation draws near; but its progress is more rapid after that change has taken place. The disease begins with nausea and oppression of the stomach, especially after meals. The appetite is in general not bad, but it is variable and capricious. The pulse is natural, and of good strength. There is, from an early period of the disease, anasarca of the legs, at first slight, but gradually increasing, and extending upwards on the thighs and the trunk of the body. The patient who, perhaps a short time before, was remarkable for activity, becomes sallow, listless, and inactive. As the disease advances, effusion takes place in the abdomen, and there is a considerable decay of flesh and strength. Sometimes there is difficulty of breathing, with symptoms of effusion in the thorax. The complaint may go on for several months. Diuretics, purgatives, and tonics, may palliate particular symptoms, and retard its progress; but it frequently baffles every mode of treatment. It is apt to terminate suddenly and unexpectedly, by slight delirium, succeeded by coma. On dissection, effusion is found in all the cavities; but no disease can be detected in any of the viscera. This dangerous and unmanageable disease seems to have been more attended to by conti-

* Hoffmanni Medicina Rationalis, (de Hydrope.)

† Cheyne on Comatose Diseases.

nental physicians than it has been in this country. It is by them reported to have been frequently carried off by critical hemorrhage from the nose; and blood-letting is said to have been used with much advantage. * A dropsical affection, analogous in its nature, and in which the same treatment is said to be beneficial, occurs in men about 60 years of age who have led a life of luxurious indolence. By the continental writers already referred to, it is described as a common disease of monks.

Besides the dropsical affections which form the subject of this paper, I believe there are some others that would admit of treatment by blood-letting, but they have not been sufficiently investigated. A species of anasarca is described, which attacks suddenly men in the vigour of life who are much exposed to vicissitudes from heat to cold, and frequently does not yield to the ordinary treatment by diuretics. All the cases of this nature that have occurred to me, have been of that kind which I have endeavoured to describe, which have their origin in an affection of the lungs, and yield to early and copious blood-letting. If this species of anasarca ever exists without the affection of the lungs, the nature of it forms an interesting subject of investigation.

Appendix.

I have stated at page 166, that, in the treatment of affections of this nature, the strength of the pulse is a very uncertain guide; for when the transmission of blood through the lungs is much impeded, we often find that the pulse is small and even irregular; and that it improves in strength, and becomes regular, after copious blood-letting. The following example of this has occurred to me since these observations were written.

A stout young man, a mason, aged about 28, was affected with slight anasarca, cough, and uneasiness in his breast. The latter was most troublesome in the night, when it amounted to dyspnœa, with a sense of constriction across the thorax, and prevented him from lying upon either side. His pulse was from 70 to 80, weak and very irregular. He had been ill about a week, during which his nights had been passed with much uneasiness, but through the day he had been able to attend to his business.

He was bled to ℥xxiv.

* Grapengiesser de Hydrope plethorico.—Bacher, Recherches sur les Maladies Chroniques.—Balme in Sammlung auserles. Abhandlungen fur practische Aerzte, B. 13. p. 525.

Immediately after the bleeding, his pulse became regular, and was much improved in strength. He passed the next night without uneasiness, and could lie in any posture. On the following day he was free from complaint; his pulse 60, full, strong, and perfectly regular. He has continued well. The blood was buffy on two of the cups.

VIII.

Some Observations on the Treatment of Phlegmon. By Richard Lanphier Drapes, Member of the Royal College of Surgeons in London, Surgeon to the Charter School, to the Lying-in Hospital, Vaccinator to the Auxiliary Cow-pock Establishment, and one of the Surgeons to the Houghton Fever Hospital, and to the Dispensary, &c. in Ross, County Wexford.

The blind deference which medical men, in general, pay to the works of systematic writers, and the enthusiastic ardour with which they embrace the doctrines or assertions of a favourite author, may be reckoned among the impediments to the advancement of medical knowledge. The rudiments of this science, also, as taught in the schools, not unfrequently are so impressed on the minds of pupils, as often to influence their practice to the latest periods of their lives, till their

——'days are dwindled to the shortest span.'

If men would only exert their own talents, which frequently lie dormant through an implicit reliance on the opinions of others, and, perhaps, a degree of indolence and want of industry which renders it distressing to many of them to call into action their own inherent faculties, many stars would arise to illumine us, in addition to the bright luminaries which have already shone conspicuous in the scientific world. By this, I do not mean to insinuate that every professional gentleman, who dares to think for himself, will certainly add to medical improvement. Not so. I only mean, that there are many first-rate geniuses, which, at present, lie hid in obscurity, and which only require to be

rightly directed, to enable them to add to the stock of human knowledge; and that men of but common capacities, when not biassed by prejudice, and sufficiently observant and retentive, will be much more successful in their practice. The bold impetuosity of fiery youth, the invincible prejudices of doating age, the pedantic effrontery of supercilious arrogance, or the mercenary views of sordid avarice, when possessed by authors, are all so many obstacles in the way towards the attainment of medical information; to which, let me add, also, as not the least frequent, an insatiable thirst for the gratification of vanity, or the glowing effusions of a vivid imagination, which seldom fail to deceive the unwary, and to turn them aside from the direct path to useful science. The love of truth, and an ardent pursuit after it, comprise the grand object which the sons of Apollo should cultivate, to enable them to practise the art they profess with advantage.

> 'Truth, ever lovely—since the world began,
> The foe of tyrants, and the friend of man.'

When we fail in our endeavours to remove a disease, we are more apt, in general, to attribute our want of success to the impossibility of performing a cure, than to the employment of improper remedies, or to our own want of skill or discernment. We do what we are desired; if this does not succeed, we must desist, for we know no more; and we pay too much respect to the opinions of our instructors, to dare to think of any remedy which they have not recommended. Thus a patient is frequently lost, or left to linger under a loathsome disease, which perhaps may sometimes, however, be cured by the powerful efforts of nature,

> 'By Nature's swift and secret working hand,'

in spite of the grossest maltreatment. On the contrary, however, it oftener happens that

> ——————'Nature disturbed,
> Is deemed vindictive, to have changed her course.'

To guard, as much as possible, therefore, against error, it is our duty to contrast our own experience with the assertions of authors. This I have endeavoured to do, when practicable; and in regard to the treatment of phlegmon, I hope the few observations I have made will not be considered, in a practical point of view, as totally useless.

Phlegmon is said to be a circumscribed tumour, frequently caused by external injuries, such as wounds, bruises, burns, the

application of chemical or mechanical agents, violent cold, &c. As arising from these causes, I do not mean to treat of it. I wish to confine myself to that species of it which is defined as a circumscribed tumour, with heat, redness, tension, throbbing pain, and sense of uneasiness in the part affected, generally attended with fever more or less, the seat of which is in the cellular membrane beneath the cutis vera; but the remote cause of which we are very imperfectly acquainted with. It is this description of inflammation that is conveyed to the mind of the surgeon by the term phlegmon; and although the word, from its derivation, might with equal propriety be applied to almost any species of inflammation, yet I am convinced that medical men, in general, understand by the term no other than the above. I am aware that there is a species of complicated phlegmon, existing deep between cellular membrane and muscles, or near bone, where the exterior redness and circumscribed tumour are not so distinctly marked as in simple phlegmon; and although the treatment of the one, with some little variation, is applicable to the other, yet, in my present remarks, I wish to confine myself to the latter. Simple phlegmon is said to terminate in resolution, suppuration, or gangrene; sometimes in scirrhus, adhesion, or effusion; and remedies for a favourable issue to each, of course, recommended. This opinion and this practice, as far as my experience goes, I take to be extremely injudicious, and much to be deprecated. Residing in a town where there is an extensive field for practice, and where the opportunity of acquiring medical information is indeed great, I cannot say that I have ever seen a single case of uncomplicated phlegmon terminate in resolution. I have conversed with several medical friends on this, who have all acknowledged, that although they frequently prescribed the most powerful repellent remedies for the dissipation of phlegmon, their practice has not been attended with the success they expected. Mr Mullett, apothecary to the Fever Hospital and Dispensary for these last five years, has declared to me, that, during that time, he does not remember one case that terminated in this manner. I consider his testimony, when joined to that of others, of inestimable value, as, from the situations he holds, there are few who have equal opportunities of being able to decide on such a matter. The attentive regard he pays to the fulfilment of his several important duties, as evinced in the extreme regularity and good order of the Fever Hospital, and his judicious advice and distribution of medicine to the numerous poor who apply for medical aid at the Dispensary, cannot be mentioned but in terms of

unqualified approbation. If resolution, therefore, cannot be effected, why employ refrigerant or repellent applications, which must and do tend to aggravate the sufferings of the patient? Nevertheless they are constantly made use of, even in defiance of their uniform failure, and the great agonies they always occasion, when employed for any length of time. In all the cases of simple phlegmon which I have seen, suppuration invariably ensued. If this then is its constant termination, before a cure is effected, why not endeavour to promote it with as much ease to the feelings of the patient as we can? I have repeatedly employed the most powerful refrigerant applications, the effect of which is to constringe the animal fibres, but never found them of the smallest benefit towards effecting my intended object, but that they always increased my patient's sufferings. I have also used the embrocations, liniments, &c. which have been found so successful in promoting the absorption of other tumours, but without any good effect. Dr Cullen's definition, 'Phlogosis (phlegmone) rubore vivido; tumore circumscripto, in fastigium plerumque elevato, sæpe in apostema abeunte; dolore sæpe pulsatili,' implies a conviction that simple phlegmon often terminates in abscess, though not always. Now it is my firm persuasion, as far as my experience permits me to think, that it always and ever does terminate in abscess; and that all the applications or general remedies we can employ, will not avail in preventing it. If this is admitted as fact, our own reason must tell us, that where the quantity of secreted fluid is so great as to cause a large elevation on the surface of the body, and where the secretion is still increasing without a possibility of preventing it, any resistance from without must be a cause of pain and uneasiness to the afflicted person; and this is always the effect of applications used to promote resolution, on account of the great contraction they cause in the cutis and adjacent parts. If suppuration, then, is the determined object of nature for the cure of phlegmon, I think it is our duty to endeavour to promote it as quickly as possible. This, I need not say, is best accomplished by warm fomentations and poultices, which should be most unremittingly and with unwearied diligence persisted in, from the very commencement of the disease. The tendency they have to relax and soften the parts to which they are applied, must obviously enable the suppuration to go on with more rapidity, and with much less suffering, and more ease to the patient, than if they were not applied; and patients seldom fail to express the greatest relief, and much comparative comfort, from the moment they are employed. This plan, if persévered in, seldom fails to render it unnecessary to let out the matter by

the lancet. The abscess generally bursts of itself; and the warm applications being used, according to circumstances, for a day or two afterwards, a cure is thus effected. The only case in which it is necessary to evacuate the matter by the lancet, is when the tumour appears fully maturated, and the suppurating process remains stationary for some time, known by the extreme softness and non-resistance of the tumour on pressure; the lancet should then be employed, and vent given to the contents by a small orifice, in the part where nature would appear to give an exit to the matter. As soon as suppuration is fully accomplished, there is no occasion to administer wine, bark, &c. as is usually done. Our internal and general remedies should be regulated entirely according to the state of the system, without any regard to the tumour itself. When phlegmon bursts of itself, the orifice is always extremely small; but, whether the matter is discharged thus, or by the lancet, we should never employ much pressure to evacuate it. The commencement of the healing process is a granulation on the internal surface, which gradually increases until the opposite surfaces meet and unite: if, therefore, you press on the tumour until all the matter is evacuated, granulation is in some degree prevented, as it never takes place so well where there is no pus. Besides, air may get in, which has been known to cause death. However, if pressure has been used, it should be continued, to keep the parts in contact, which is necessary to their healing, and prevents the bad consequences which might otherwise ensue. Dossils of lint should never be crammed into the opening, for if it is made at a proper period, it will not close before the matter is sufficiently discharged. If phlegmon, however, is complicated and situated between muscles and beneath fascia, a tent of lint is in general necessary. In the greater number of cases, the antiphlogistic plan is necessary to be observed through the whole course.

The theory of the course of phlegmon proceeding to suppuration, is too well established to render it necessary for me to say any thing upon the subject. My object is merely to disseminate a mode of treating phlegmon, which, in my own practice, I have found most successful, and which my experience inclines me to think is the most advantageous. I do not pretend to a discovery; there is nothing new in treating phlegmon by warm and emollient applications. I only wish to subvert a mode of treatment which I consider to be totally useless, and extremely distressing to the patient, namely, that of endeavouring to procure resolution by cold or any other applications, an object which I conceive it impossible to accomplish by any means at present known. We should learn to distinguish this inflamma-

tion from other sorts of abscess. The varieties of phlegmon enumerated by Dr Cullen, will not, I imagine, be admitted as such by the generality of surgeons, although the termination and treatment of some of them may be the same. In addition to the appearances mentioned before, when phlegmon is great there are sometimes slight shiverings, rigors, &c.; but this is not universally the case: it is always circular in shape; the part which first swells first suppurates; and, when the abscess is fully formed, its parietes are thinner and of less circumference than before; in other abscesses this is not the case: finally, the matter formed never goes back or disappears; it is not so in scrofula, bubo, &c. The same degree of thinness remains in one part for some time, then gradually increases till the cuticle alone confines the matter; it then gives way, the opening being very small. However, by a little attention and experience, we will be able to ascertain phlegmon even at its very onset. If gangrene should supervene, which, though seldom, yet may sometimes happen, the treatment is so well established, that nothing is left for me to say in addition. The practice I have here recommended has been adopted by many men of eminence in the profession, but is very far from being general.

If the few remarks I have made should be considered of any utility towards confirming a proper mode of facilitating the progress and cure of phlegmon, my object in offering them to so excellent a Journal is attained, and shall encourage me to persevere in investigating the real nature of diseases, and the most advantageous method of treating them.

September 6, 1817.

IX.

An Account of Two Still-born Children, restored to Life a long time after Birth. By Henry Terry, Member of the Royal College of Surgeons in London, Assistant-Surgeon Half-pay 14th Infantry.

The relation of the two following cases, in which I have been fortunate in restoring still-born children at a very late period after birth, may possibly be the means of encouraging others to a more determined employment of the resuscitating process, which too often fails of success from not being long

enough persevered in. The first case occurred to me at a period when I had not leisure to enter a detail of it; little, therefore, more than the bare facts is given with it: The second case, of recent occurrence, is related more fully.

At Weedon Barracks, Northamptonshire, the 25th of May 1814, the lady of an officer, in the 14th regiment, was delivered of a still-born child. The feet had presented, the labour had been quick, and there was reason to believe that life had not been long extinct. The lungs of the child were, therefore, immediately inflated from my own, while the body was immersed in hot water, and volatile spirit occasionally applied to the nose, mouth, and chest.

Artificial respiration was thus obtained, and it was diligently persevered in for the space of two hours and a half before reanimation was effected. At this period the child began to cry. It breathed, however, with some difficulty, and with a noise somewhat resembling the croup. Circulation was performed properly; but the child lived only nine hours, the difficulty and noise in respiration continuing to the last. The body was not examined.

Case II.—On Saturday the 10th May 1817, the wife of Mr J. Whitherspoon, house-painter, &c. in Northampton, was delivered of her first child. The labour had been tedious, the liquor amnii having been discharged very early, and the face having presented.

The child, a female, was still-born. The circulation of the funis had quite ceased, and the heart of the infant was perfectly still. The face had suffered from hard pressure, was swollen, and marked to a considerable extent with ecchymosis; the lips were a good deal enlarged, remarkably flabby, and pale. There was no sign of animation in any part of the body, and I thought a very faint hope of restoration. But, encouraged by the recollection of the preceding case, I determined on making an attempt, and the fortunate result of it I have now the pleasure to communicate. Having procured a bath of hot water, the body of the child was immersed, and supported in it by a nurse, whilst I, interposing a piece of muslin, inflated the lungs from my own mouth, closing the nostrils by the pressure of my fingers. The thorax was compressed after each inflation, and thus artificial respiration was maintained, observing the natural periods of frequency, and keeping in mind the difference of capacity between the child's lungs and my own. In about half an hour I felt very clearly a faint pulsation of the heart; a little fluttering

I thought I had perceived, once or twice at intervals, a few minutes before, but I was hardly sure of it. A slight convulsive action was some time afterwards perceived, affecting the muscles of respiration: in about a quarter of an hour it occurred again, and soon afterwards became stronger, and more frequent. The effects of circulation began now to show themselves, and the death-like pallor of the general surface gave way to a more natural appearance. Volatile spirit was occasionally applied to the mouth, nostrils, and thorax; and the increasing effect produced by each application of the stimulus, kept pace with the advance of other symptoms. Thus were these means vigorously pursued, and thus were the powers of returning life gradually developed, till the lapse of one hour and three quarters from the birth. At this period the infant breathed, and life was fully restored. For some hours, the respiration was rather hurried and labouring, and the child did not cry. The warm water was continued, and hartshorn occasionally made use of, till all unfavourable symptoms disappeared. An ulcerated mouth appeared on the third day, which for some time prevented the child from sucking. On the fifth day, my attention was called to a peculiar state of the infant's breasts. A swelling of each of them had been perceived two or three days, and had now so much increased, that the size of each tumour was fully equal to that of a common tea-cup. They were very hard, but did not seem to occasion the least pain. They moved loosely under the integuments, which were tense and shining from the extension. A few drops of milky fluid exuded occasionally from them. They were reduced with difficulty, maintaining the full size about a week. Poultice was the most useful application. The child was soon afterwards severely affected by the thrush, but she recovered from it without any particular occurrence, and is now in every respect as strong and forward as any child of an equal age. The blackness and swelling of the face disappeared in a few days.

These are the only cases of still-born children I have met with; and from the success I have had in both, at a late period after birth, I shall, in any future cases that may occur to me, under similar circumstances, feel considerably sanguine of a similar result. The second case was particularly unpromising, both from the general appearance of the body, which led me to think it had been dead some time, and also from an unavoidable delay and interruption which was necessary in regard to the mother. There is here much room for physiological dissertation on suspended animation; but I do not enter upon it, nor do I pretend to define at what periods success may be confidently looked for, or under what circumstances all hope must be

considered lost. I merely state the facts as they have occurred to me; hoping, however, as I have before observed, that, from the bare recital of them, there may be occasionally induced, a more confident employment of those means which, if more steadily persevered in, would be oftener attended with success. The power of restoring the long suspended action of the human heart by inflating the lungs, and the gradual advance which is seen from the time the heart begins to beat, till the powers of life are fully established, are circumstances peculiarly interesting and important. The exact periods at which these different changes took place are not marked with determined precision; for my attention was too much engaged in the employment of the means, to note with accuracy, more than the time of birth, and that of the infant's restoration.

The tender interest, and anxious, yet almost hopeless expectation, which parents feel during the employment of these means, can only be equalled by the full effusion of admiration and gratitude, which is occasioned by a fortunate result; and I know of no situation in which a medical man can be placed more gratifying to his feelings, than when he has succeeded in restoring a difficult case of suspended animation. Even one successful case is ample recompense for many failures.

These considerations, added to the still stronger obligation of duty, should induce us to spare no labour in our attempts to restore still-born children.

Northampton, 17th August 1817.

X.

Report of Diseases on Board the Bellerophon, Convict Ship, for the Quarter ending 31st June 1817. By ARCHIBALD ROBERTSON, Surgeon.

Febris Synocha	9	Erysipelas	1
——— Typhus	5	Inflammatio Testis	1
——— Intermittens	2	Urticaria	1
Cynanche Tonsillaris	1	Catarrhus	12
Pneumonia	10	Asthma	1
Enteritis	2	Scrofula Glandularum	3
Ophthalmia	3	——— Ossium	1
Phlegmon	7	Diarrhœa	1

Constipatio	1	Hernia	2
Ulcus	28	Psora	1
Vulnus, Contusio	46	Debilitas	8
Syphilis	6	Mania	1
Ascites	1		
Dysenteria	1		Total 157
Fistula in Ano	1		

Of these 140 were treated on board, and 17 at the hospital, viz.

Typhus	5	Syphilis	5
Ophthalmia Syphilit.	1	Scrofula Glandularum	3
Pneumonia	4	——— Ossium	1
Asthma	1	Ulcus	7
Enteritis	2	Mania	1
Ascites	1	Vulnus, Contusio	5

Died 1—Cured 156.

Observations.

At no period had the weather been so variable as that embraced by this report. The extremes of heat and cold, moisture and dryness, succeeded each other with a rapidity very unusual; but the uniformity of diet, the regularity of labour and rest, the strict discipline, and the internal economy of the ship, operated to prevent the changes of temperature from adding disease, in any great degree, to the pains of confinement.

Of the few cases of typhus fever which occurred, it was easy to trace the origin to contagion. It first made its appearance on the 5th June, in a convict, who, three days previous, had been discharged from the hospital at Newgate. He, in common with the other new prisoners, received, on coming on board, an entire change of clothing, had been shaved and placed in the warm-bath, yet, nevertheless, the symptoms speedily developed themselves. On the 7th, 8th, and 9th, three successive cases presented themselves; two of them convicts who had been some time on board the ship, the other a prisoner, who had accompanied the person first affected from Newgate. These two having sustained the fatigues of removal from London to Sheerness, at a period when the disease must have been making insidious approaches on the constitution, suffered more violently, and for a greater length of time, from its attacks, than the other patients. The symptoms exhibited the existence of increased vascular action and of congestion, yielding in proportion as the mouth became affected by calomel, which was perseveringly exhibited in combination with opium and antimony.

The fifth case, as it came before me, appeared to be purely congestive; the aspect yellow, heavy, and lifeless; the powers of the body sunk; the mind clouded and dull, succeeded in a few days, by perfect coma. Calomel, and the use of the mercurial ointment, saved this patient.

One prisoner fell a victim to pneumonia. Previous to the attack he had been labouring under great debility; and it was unfortunately found impossible to abstract blood in any efficacious quantity, the vessels being preternaturally small throughout the whole body. In two cases of enteritis, I ascribed recovery solely to copious and repeated bleedings, blisters to the abdomen, and the frequent injection of tepid water. One of these cases was sent from the ship to the hospital, with the intention of being operated on for the fistula in ano; but he was the same day seized with a twisting and shooting pain in the abdomen, obstinate costiveness, tension, tenesmus, vomiting, and pyrexia. In two days the violence of the symptoms was subdued; and on the ninth day, as there was not the least existing trace of inflammation, I operated for the fistula. Immediately afterwards, however, the enteritic symptoms recurred, no doubt excited by the operation, and rendered more alarming by the previous attack. The same remedies were again successful.

In the case of asthma, the most decided benefit arose from the employment of the sulphas magnesiæ, 2 drs. every morning before breakfast; a perseverance in the use of this simple remedy will be found highly useful in cases of chronic pulmonic disease. The constant application of cloths wetted in cold sea-water,—drinking it every morning to the extent of a wine glass-ful, and bathing three times a week, have, in each of the cases of scrofula, effected a wonderful change.

Twenty-eight ulcers presented themselves for cure, the majority very foul extensive sores, in new prisoners from the country jails; the remainder arising from contusions accidentally received while at labour on the new works. Of the wounds and contusions none were very severe, with the exception of four cases which terminated in exfoliations of the tibia, and of two fingers and one toe which required amputation.

On the 11th of June a convict, of a robust and healthy constitution, while assisting at the removal of some heavy stones, received a severe blow across the anterior part of the thigh, close to the knee. He was conveyed from the spot to the hospital, and, in my absence, my colleague, Mr Cullen, attended. He found the patient complaining of most acute pain in the knee, with loss of motion. No external injury existed, nor

could the most careful examination detect any violence done to the patella or femur. Pointing to the insertion of the rectus femoris, and drawing his finger along the course of that muscle to the anterior spinous process of the ilium, the patient traced the seat of a pain, more active and violent than in the other parts of the knee and thigh. It therefore appeared to Mr Cullen, that the ligamentous attachments to the patella were severely injured, perhaps partially torn and lacerated, by the violence of the blow, which was given by the pole of the cart striking suddenly across the thigh. The limb was placed in a relaxed position,—directed to be constantly covered with cold applications, and twenty ounces of blood taken from the arm. I saw this patient early in the morning of the 12th instant, when a minute examination of the knee led me to coincide in the opinion of Mr Cullen. The patient, however, now laid his finger on one spot, on the inner edge of the patella, as the seat of greatest agony; but even here there was not the least trace of injury. The febrile symptoms being severe, I directed the use of diaphoretics, and desired that the applications to the knee might be continued. On the 13th the fever having suddenly increased to an alarming height, the assistant abstracted fourteen ounces of blood, and sent to desire my immediate attendance. Before I reached the hospital, he was seized with locked jaw. I found him with the teeth immoveably clenched; the eyes fixed; pupils widely dilated; face flushed; respiration short and laborious; the superior and inferior extremities strait and stiff; and the whole body inflexible and rigid. The fortunate loss of several teeth in the upper and lower jaw, enabled me, while a bath was preparing, to pour down repeated quantities of the tincture of opium and camphor julep; at the same time stimulating embrocations were applying over the whole surface by several assistants. On being raised from the bed, the body presented the most perfect specimen of a complete general inflexibility of the muscles. The frictions were continued about fifteen minutes in the bath, the temperature of which was kept up by successive additions of hot water, and additional quantities of opium, camphor, and port wine administered. A relaxation in one of the arms, accompanied by a heavy long inspiration, induced me to hope that the violence of the symptoms was about to yield. These were succeeded by twitchings in the lower jaw, starting of the limbs, and a profuse perspiration on the forehead. He was now removed to bed, placed between blankets, and hot fomentations applied to the soles of the feet. In a few minutes the perspiration became general,—the spasms disappeared,—the speech returned,—and a perfect calm succeed-

ed this alarming train of disease. A bolus of calomel, camphor, and opium being exhibited, he fell into a profound sleep. The fever which followed this attack required the use of powerful remedies for three days. On the 16th these were so much mitigated, and the pain around the knee so much relieved, that I found his pulse at 76. On the morning of the 19th, however, he was seized with tremors and spasms throughout the whole body, but which yielded to opium alone.

No remarkable symptom took place in the future restoration of the limb till the 28th, when, near on the spot where he had originally pointed as the seat of extreme pain, a small portion of bone, the size of a pea, rough on one side, and apparently detached from the patella, presented itself under the skin. This was followed, on the 29th, by a second piece of nearly the same size; after which the wound healed, and the limb recovered its powers and strength.

I have not stated the amount of the tincture of opium which was given, as, from its being administered on the spur of the moment, it was not measured. Indeed, it was exhibited with such freedom, that the quantity would hardly be believed; but with such happy results, and no subsequent injury to the constitution, I shall in future feel warranted in employing it with equal freedom in similar cases, without regard to quantity.

Sheerness, Isle of Sheppy.

XI.

Observations on Medical Legislation.

I HAVE just read, in the last Number of your valuable Journal, a paper on Medical Legislation—a subject which must be in the highest degree interesting to all who have the interests of the profession at heart, and wish to see all its departments permanently established on a liberal and respectable footing, and freed from the intrusions of unqualified pretenders, which have so often brought discredit upon it. Although I agree with the author of that paper in the most of his general conclusions and suggestions, there are some points on which I feel a difficulty in going along with him; and as investigation and discussion afford the readiest means of arriving at the truth, I shall feel obliged by your insertion of the following remarks; being anxious,

that if any thing be done by the legislature for the security and advancement of the medical profession, it should be done on mature consideration of all the circumstances, and by a liberal adaptation of the measures adopted to the necessities of the public.

The writer of the article alluded to has given a classification of medical practitioners, not perhaps such as would be considered best by one who should reason on the abstract propriety of the case, but such as is to be found in the greater part of the British dominions, and this too, without once hinting at the classification which has place in the country in whose metropolis the dissertation is published. In Scotland, there are few physicians; indeed, unless in the large cities, there would be no scope for a physician, strictly so called. The generality of Scotch practitioners are of the second class mentioned by the author,—those who practise physic, surgery, and sometimes midwifery. Except in remote places, I believe the third class of practitioners is unknown in Scotland; but, in their stead, there is what appears to me to be a much more useful class, because their duties are clearly defined, and any abuse of the office which they have to perform, is much less in their power. I mean the compounders and dispensers of drugs, commonly called apothecaries, who never prescribe, but merely compound medicines according to the prescriptions of the physician or surgeon. As their education, which consists of an apprenticeship, and, where opportunity offers, an attendance on lectures, is entirely confined to an intimate acquaintance with the qualities of drugs, and the various pharmaceutical operations, they are well fitted for the duties they have to perform, while, in consequence of their attending to no other object, the public are furnished with an additional and very strong security against their being ignorant of any part of what they undertake. And as they never see patients, it is put completely out of their power to practise an abuse which has been more than once charged against the general practitioners in England, viz. that of entering into a compact with a particular physician or surgeon, that they shall recommend him whenever a case occurs, which they do not consider themselves competent to treat, on condition of his sending all his patients to them, and ordering plenty of medicines. Nor is this the only harm which these general practitioners have it in their power to do; for, even when no such compact exists, the young physician must know, that his being extensively employed, or, in a great measure, neglected, except by his personal friends, must depend, in no small degree, on his being able to secure and maintain the good-will of one

or more of the surgeon-apothecaries, who are almost invariably applied to, in the first instance, for medical advice; so that his gains, and, in some degree, his reputation, in the way of his profession, must depend, in a certain measure, on his profusion in ordering medicines. To the same cause may be traced a custom which tends to no good, except swelling out the apothecary's bill, unless we can suppose that all the attendants of the sick are utterly destitute of common apprehension, of sending each individual dose of medicine separately, so that, if a patient in fever be ordered to take an effervescing draught at the end of each hour, the apothecary's apprentice, *who is also his porter*, brings in the morning twelve small phials, duly tied up and labelled, with the time at which each is to be taken, properly marked; towards dinner time, he returns with as many more; and again, in the evening he makes his appearance with a fresh supply of four-and-twenty, all of which are to be emptied before next morning. By this contrivance, some pounds Sterling may be charged for medicines, which, if put into one or two large bottles, could not be conscientiously estimated at more than a few shillings. This custom could not continue, if the physicians were to stand out firmly against it; but the physician who is beginning practice, feels himself much at the mercy of the apothecary; and he who is established in practice is not likely to take much trouble in correcting an abuse which he has submitted to during great part of his lifetime. It is needless to insist on the advantages of leaving the physician unshackled by fetters forged by an inferior member of his own profession, whose duty should be exclusively to compound medicines, and who ought to have no influence, either direct or indirect, in regulating either the kind or quantity of medicines to be administered.

The next point to which I think it necessary to advert, is the custom on the part of the surgeon of dispensing medicines. It is, no doubt, true, that without such a knowledge of the nature and composition of remedies, as will enable him to compound them himself, or to direct his apprentices how to do so, he cannot practise with either satisfaction or success; but, can the physician do so, any more than he, without this knowledge? I apprehend not. And if the one be allowed to retail medicines, why should not the other do so too? The common answer to such a proposal (and I think a very sufficient one) is, that it would compromise the dignity of the profession; and if the surgeons are willing to forego their dignity for the sake of adding to the otherwise honourable gains of their profession, a few *per cents* of profit on the price of drugs they order, which are

earned at the expense of another, more humble, but not less important part of the medical profession, I believe that the custom must be left as it is. But I am of opinion, that it would better answer the uses of the public, if the surgeon were not, any more than the physician, to combine the trade of an apothecary with the profession of surgery; and, for this reason, that, by narrowing the limits of each individual's pursuit, greater chance would be afforded him of excelling in the department that would be left for him. There are physicians, and oculists, and aurists, and dentists, and men-midwives, and apothecaries; and there are also surgeon-apothecaries, who practise in physic and midwifery, as well as in every other department of surgery and pharmacy. Now, is it not likely that the physician will understand the department of medical science to which he has attached himself exclusively, better than any of these mixed practitioners, who are ready to undertake every thing?

Physicians, although, as the author of the Essay justly observes, not an extensively useful class, do no doubt serve most importantly the interests of the public, while from the pains which are taken to secure to them an education in every respect liberal, they are of no small use in upholding the dignity of the profession; but I would ask, whether the practice of physic be so much more simple than that of surgery, that the same trouble and attention are not requisite in order to qualify a student for the one as for the other? Can an attendance on lectures, which must consist principally of general rules and a perusal of books, which cannot be made to embrace all the niceties of practice, be viewed as sufficient to enable a man to discern and apply in a proper manner the necessary remedies for all modifications of disease in which the surface of the body is uninjured, while no one is looked on as capable of applying a salve to a cut finger, who has not served an apprenticeship to the art of surgery? The practice of physic, as well as that of surgery, involves scientific knowledge, and the application of that knowledge to a practical art; and if an apprenticeship be not necessary for the acquisition of the one, I can see no part of the other for which it can be supposed to be necessary, except the manner of performing operations; and it is well known that the student is in general left to acquire a knowledge of this as he best can, from attending the operation room of an hospital, while the scope of the instructions which he receives from the surgeon to whom he is bound apprentice, is limited to pharmacy, which, were the student aware of the fact beforehand, he would learn at a much cheaper rate by attending the shop of an apothecary for a few

months. Was it by a consciousness of this that the Colleges of Surgeons were led to stipulate so expressly, that every candidate for a diploma from their body shall produce proofs of their having served a regular apprenticeship?

Such being the real state of the case, I think that a choice is left between two conclusions—that an apprenticeship is as necessary for the acquisition of medical as of surgical knowledge, or that it is equally unnecessary for both.

The manner of granting degrees in medicine is the next subject which seems to require animadversion. The mode adopted by the Universities of Edinburgh and Glasgow, and by the School of Physic in Dublin, are liable to few objections; yet there are means of qualifying for submitting to an examination without more than a very superficial acquaintance with the rules of medical practice. All the other universities give degrees on conditions which seem to require alteration; but if the power of conferring academical honours were to be taken from any of them, which would be a harsh, and, I think, an unnecessary measure, I confess that I cannot perceive why the Universities of Oxford and Cambridge should be considered as better entitled to confer a medical degree on a man who has kept his terms, than the Scotch Universities to grant a degree to one who, after having established his character as a practitioner, produces a testimonial of his talents and moral character from two physicians, given in consequence of their *personal acquaintance* with him. Indeed, were these conditions rigorously fulfilled, (and, if they be not, it is owing, not to the universities which require them, but to the physicians, who, without sufficient grounds, certify *on their honour*, that, from their *personal knowledge* of the candidate, they know that he deserves the degree), this is perhaps the least objectionable mode of granting degrees; and if the universities which, having no medical schools connected with them, practise this mode of securing themselves and the public against the intrusion of unqualified pretenders be deemed to have forfeited their right of conferring degrees, surely the Universities of Oxford and Cambridge ought not to be more gently dealt with, since it is acknowledged on all hands, that a medical degree from either of them is little more than a proof that a certain number of terms have been spent at the university in literary pursuits. I do not, however, see any necessity for so harsh a measure with regard to either the English or the Scotch universities. Let both either establish medical schools, and grant degrees only in the mode adopted by Edinburgh and Glasgow; or let them confer degrees, in consequence of testimonials, only to men who are already established

in practice, and who have submitted with success to the ordeal of public opinion.

What the author of the Essay says, in attempting to show that the obstinate adherence of the universities to antiquated systems, tends to the creation of a spirit of innovation, is indeed paradoxical. I never before heard of such a consequence from so unlikely a cause, and should feel grateful to him if he will communicate the steps of the induction by which the conclusion has been obtained.

To sum up the qualifications and duties of each department of the profession, the physician requires a knowledge of pharmacy no less than the surgeon; but it appears to me that neither ought to practise it. To the qualifications for a medical degree, mentioned in the Essay, I would add, that any individual of the class of surgeons who has proved his abilities by practice, and can produce testimonials of character and education, general as well as medical, from two physicians, ought not to be debarred from obtaining a medical degree, if he be desirous of it, without losing his time, and compromising his dignity, by attending all the lectures and demonstrations that are required in the case of a student, who, except from these sources, has no means of acquiring a knowledge of medical science.

I am very doubtful whether an apprenticeship ought to be looked on as an essential part of a surgeon's education, for the reasons above stated; and would therefore rest satisfied with insisting on a regular course of medical, surgical, and pharmaceutical education, consisting of lectures, dissections, &c. (to which midwifery might be added in the case of those who intended to practise in that line); and with ascertaining by examinations the knowledge and abilities of the candidate.

The apothecaries I would restrict entirely to the office of compounding and dispensing drugs. The requisite qualifications would be an apprenticeship and an attendance on lectures; the candidate for admission into this department of the profession to be subjected to an examination previous to his being permitted to open a shop. I am aware, that, in as far as regards England, this proposal would be attended with considerable difficulty in the execution, and might perhaps be scarcely thought advisable, as there the general practitioners are the only members of the medical profession who will condescend to supply the wants of all classes of the public: but in Scotland no such objection attaches to it.

The consolidation of the colleges and incorporations into a grand medical institution for each division of the united kingdom, is a suggestion highly worthy of attention; and I am

happy to conclude this letter, already a great deal too long, by stating, generally, that I heartily concur with the author of the Essay in all the observations contained in his concluding paragraphs and appendix.

XII.

On a particular Fracture of the Inner Condyle of the Humerus.

By Benjamin Granger, Surgeon, Burton-upon-Trent.

Surgical writers, in treating of fractures of the humerus, have made no mention of a distinct species of fracture affecting its inner condyle, which, like the fracture of that important portion of the ulna, the olecranon, is of a nature to merit a particular consideration. A distinguishing circumstance attending this fracture is, that of its being occasioned by sudden and violent muscular exertion; and it will be recollected that, from the inner condyle, those powerful muscles which constitute the bulk of the fleshy substance of the ulnar aspect of the fore-arm, have their principal origin. The way in which the muscles of the inner condyle are involuntarily thrown into such sudden and excessive action, I take to be this,—the endeavour to prevent a fall by stretching out the arm, and thus receiving the percussion from the weight of the body on the hand. One example, indeed, of this accident, I found complicated with a luxation of the humeral extremity of the radius, and another with a luxation of the elbow-joint; and, as these luxations are known to depend on falls on the hand, a fracture of the inner condyle of the humerus, from the inordinate action of its muscles, could not well be simultaneously produced, unless it originated in the same manner. Whether the whole condyle be broken off, or only a portion of it, the detached piece of bone is retracted from the humerus, just below the bend of the elbow-joint, with some variety of lateral situation, in different instances, being in contact with the olecranon, or an inch or more distant from it. From the way in which the fracture is occasioned, an unusual degree of inflammation speedily attacks the elbow-joint and fore-arm, reaching about as low down as the termination of the carneous fibres of the flexor muscles, and being accompanied with so much tumefaction as to prevent, almost entirely, the motion of the elbow-joint, although, in the first instance, the

displaced condyle admits of the utmost degree of flexion and extension of the fore-arm with facility. In one or two instances, an extensive tract of ecchymosis spreads along the inner side of the fore-arm, indicative, of course, of the degree of violence with which the muscles of the inner condyle had exerted themselves. It will not be necessary to enter on any details relative to the mode of treatment of the inflammation. I shall only observe, on this head, that I have found the topical abstraction of blood, by means of leeches, materially to aid the beneficial effects of the other remedies which have been employed. When the inflammatory stage of the accident is got over, and when the tumefaction has also subsided, a stiffness of the elbow-joint remains, which is so complete, if the whole or the greater part of the condyle has been fractured, that the position of the fore-arm can be little or none at all varied from that in which it had been confined in the sling. This stiffness of the elbow-joint is of so obstinate a nature, that, in the first case of this accident which came under my care, I was for some time apprehensive that an incurable anchylosis would be the consequence. The remedy for this stiffness of the joint consists in the exercise of it, as much as possible, both by active and passive motion,—that is, by the use of the appropriate muscles, and by bending and extending the fore-arm with the other hand, or by means of an assistant. The exercise of the joint in this manner must constitute the *principal occupation* of the patient for several weeks; and should it be remitted during the formation and consolidation of the callus, much of the benefit which may have been derived from this practice will be lost, and will, with difficulty, be regained, as the following case will exemplify. 'On July the 13th of this year, a boy, about eleven years old, had the inner condyle of the left humerus fractured, in consequence of being thrown down with violence while at play. This was the case which was complicated with the luxation of the elbow-joint. The luxation was readily reduced as under ordinary circumstances, and no obstruction of the flexion and extension of the fore-arm then existed. When the tumefaction, which was exceedingly great, had gone down, the fore-arm was found immoveably fixed at right angles with the humerus, the position in which it had been supported in a sling. By perseverance in the exercise of the joint, he could, at the end of three weeks from this time, produce so much additional flexion of the fore-arm, as to be able to carry the first joint of his thumb beyond his fore-teeth, without any approach of the head; and he had recovered the power of extending the fore-arm in a still greater proportion. As [illegible] in the country, and as I had given the boy very minute directions

how to proceed, I did not happen to see him again for a considerable time. He had then succeeded in getting his fore-arm into a state of complete extension; but with this condition, it was as immoveably fixed in the extended state as it had previously been in that which it was found in after the swelling had dropped. This obviously arose from his having neglected the flexion of the fore-arm, in his efforts to obtain the full extension of it. Exercise of the flexion of the joint has since been so far of use to him, that he has reacquired the power of bending it nearly to the extent before mentioned; and he can manage to take his food with a fork in his hand, in the usual way, without any inconvenience.' This is the only instance of this accident out of five which I have seen, that the full range of flexion and extension of the fore-arm has not ultimately been obtained, or with so trifling an exception as not to be observable without close attention.

I have purposely avoided saying one word about replacing the detached condyle; and for these reasons, during the state of tumefaction of the limb, no means could be adopted for confining the retracted condyle in its place, beyond that of the relaxation of its muscles; and both before the tumefaction has commenced, and after it has subsided, all endeavours to replace the condyle or even to change the position of it, have failed.

In consequence of the retraction of the inner condyle below the elbow-joint, it must be obvious that its muscles can no longer assist with the supinator longus, the brachialis internus, and biceps brachii, in the common flexion of the ulna and radius. The extent, however, to which the muscles of the inner condyle act as flexors of the fore-arm, is, according to the best authorities, very limited; therefore, little inconvenience can result from the misplacement of the condyle in this respect. Thus Dr Barclay, in his original work on the muscular motions of the human body, after having enumerated the muscles of the inner condyle among the flexors of the fore-arm, observes, that they are so '*only* to a small extent, and *only* at a time when motion commences, and before the lever of resistance is shortened, and the levers of the biceps and supinator are lengthened.' p. 396. Again, the mechanical advantage which the inner condyle, projecting from the humerus, is said to afford its muscles in their action, is an opinion which accords more with *theory* than with *fact;* consequently, the several movements of bending, grasping, and turning the hand, which these muscles produce, can be performed with much the same degree of force when the condyle is retracted below the elbow-joint, as when it was situated on the humerus. A statement of a case of this accident will

establish these positions, and will also afford me an opportunity of mentioning some symptoms peculiar to this species of fracture of the inner condyle, which have not before been noticed. On December 10th, 1808, W. D. a boy about eight years old, fell down with violence, and fractured the inner condyle of the *right* humerus. The whole of the condyle was broken off and retracted below the elbow-joint. On questioning him, he said that he fell on his hand. The inflammation, tumefaction, and stiffness of the articulation, consequent to the accident, took place, to the extent before described to happen in these cases. He recovered the free and entire use of the elbow-joint, in somewhat less than three months after the accident; but the misplacement of the condyle and its muscles, destroyed the symmetry of this part of the arm, and gave it a deformed appearance. From the pressure which the retracted condyle produced on the ulnar nerve, the little finger, from the moment of the accident, lost all sensation; and the inner side of the ring finger, and integuments on the ulnar edge of the hand, became also devoid of feeling. The abductor minimi digiti, and two contiguous muscles of the little finger, from the same cause, were rendered paralyzed and useless. Successive crops of vesications, about the size of a split horse-bean, commenced to form on the little finger and ulnar edge of the hand some weeks after the accident, leaving troublesome excoriations. This eruption of vesicles did not entirely cease for two or three months, and might in some degree be attributed to the cold weather of the winter. At a proper age, this youth was put out as an apprentice to a house-painter; and the laborious and long continued exertion of the *right* arm, which the manipulation and handicraft of this trade requires, need not be pointed out. Now, so far from experiencing the disadvantage in the action of the muscles of the inner condyle, which on principle we should expect as an inevitable consequence of the circumstances of the case, he has been capable of working with his right arm in the business which he is brought up to, for the several years that he has been engaged in it, with as much ability as if he had not been subject to the accident. Even when lifting heavy burthens, he does not find the right arm to fail him; he has, indeed, occasionally perceived a slight degree of uneasiness at that *particular spot* of the arm which the retracted condyle *adheres to*, when much pushed with hard work; but this is evidently an inconvenience of a different nature from that alleged diminution of the efficient action of the muscles of the retracted condyle which we are speaking of; and appears to be rather an affection of the surface of adhesion of the condyle, than of the muscles which spring from it. W[illegible]

in the last year and half he has recovered the use of the three paralyzed muscles on the ulnar edge of the hand; and the sensibility of the integuments covering them, and the other parts of the hand which had lost their feeling, has returned. If the little finger be pressed strongly, it feels numb for some time afterwards; therefore, the nervous energy cannot yet be said to have been fully restored to that division of the hand which had been deprived of it.

In two other cases of this accident I found the same paralysis of the small muscles of the little finger, the same loss of feeling of the integuments, and the same succession of crops of vesicles of the affected parts of the hand, as is described to have occurred in the preceding case. The formation of the vesicles proves, that the influence of the ulnar nerve does not extend beyond the condyle which subjects it to pressure; for, in an interesting account of a case of *tic douloureux* of the fore-arm, given by Mr Henry Earl, in the Medico-Chirurgical Transactions, it appears that the mode of cure was the division of the ulnar nerve just above the elbow; and that, at four distant intervals of time, a 'blister formed on the little finger' terminating in a slough, and agreeing in every particular with the eruption of vesicles which attends the accident under consideration. As the pressure on the ulnar nerve, from the retracted condyle, cannot be supposed to diminish, I can give no other reason for the restoration of the lost energy of it, than that, in course of time, the nerve accommodates itself to the pressure it has been subjected to, and thus the effect of the pressure ceases.

Dessault has described a variety of fractures of the inner condyle of the humerus; but, on examination, it will be found that they all agree in these particulars, namely, in the displacement of the fracture (if any does take place) being always horizontal, and in such displacement being remediable, in the usual way, by *splints* and *bandages*; whereas, in that species of fracture of the inner condyle, which I have been describing, a *retraction* of the detached piece of bone takes place; splints and bandages would be inadmissible in the inflammatory stage of the accident, and afterwards would not only be useless, but would interfere with one of the principal indications of cure—the almost incessant exercise of the elbow-joint. The fractures of the inner condyle which Dessault particularizes, are such as more or less communicate with the cavity of the joint, and hence the fracture can only be displaced horizontally in the three directions which he mentions; that is, forward, backward, or sidewise. It is such fractures of the inner condyle only, as Dessault points out, that Mr Charles Bell appears to

have in view in his 'Principles of Operative Surgery,' when the advice he gives for their treatment is to 'secure the arm in that position which permits the fragments to *repose* in their proper places.'

Burton-upon-Trent,
December 26, 1817.

XIII.

Observations on the Cure of Syphilis without Mercury, and on a Peculiar Affection of the Alimentary Canal, sometimes mistaken for Syphilis. Communicated in a Letter to Dr DUNCAN, jun. By JOHN HENNEN, Deputy-Inspector of Hospitals.

DEAR SIR,—In the present state of the question of the treatment of syphilis without mercury, it would be quite superfluous in me to make many remarks. The results of several trials have already been laid before the public, as they have occurred in the military hospitals of this city, by Dr Thomson, and in those of London by Messrs Guthrie and Rose.

I have felt great pleasure in showing you such of the cases as were still under treatment; and I know that I fulfil the wishes of my respected chief, Sir James M'Grigor, the Director-General of the Medical Department of the Army, when I solicit the inspection and opinions of medical practitioners, who are so well able to form a judgment as yourself. And I beg to assure you, that the same spirit of candour, which has induced me to show you the evidence upon one side of the question, will point out to me, as a duty, to communicate to you every thing which may hereafter appear upon the other. But as some misconceptions may arise in the minds of those who hear of, without being able to see, the practice to which a fair trial is now giving, I think it necessary for me to trouble you with a few observations.

It has been supposed by some persons, that the cures effected *apparently* without mercury, have been actually performed by means of the different preparations of that mineral, and by caustic surreptitiously employed. But the slightest acquaintance with the discipline of military hospitals, as at present conducted, would point out the impossibility of such a practice.

It has been urged, that the primary sores which have disap-

peared under the antiphlogistic regimen, cleanliness of the parts, and mild local applications, have been mistaken in their nature. On this I beg to remark, that, in the half-yearly returns of diseases sent in from the different military hospitals to the Head of the department, there are no less than five separate columns appropriated to the classification of venereal complaints, their consequences and concomitants, exclusive of gonorrhœa. Among these, there is a special head for the 'ulcera penis non syphilitica,' a class under which, as is well known, a great variety of morbid affections of the genitals range themselves; but which, having been very frequently confounded with true syphilis, and and at once submitted to a mercurial course, have not been allowed to evolve themselves, but have had their nature totally changed or modified by such treatment.

That these sores, (at least all of them that hitherto have appeared in the military hospitals here), and also that the species which Mr John Hunter has designated as the true syphilitic sore, heal without the employment of any other means than rest, abstinence, cleanliness, &c., is perfectly demonstrable, and is daily to be seen in the wards at the Castle, and at Queensberry House, appropriated to such cases. That ulcerations in the throat, cutaneous eruptions, and a combination of both, coupled in some cases with iritis, have disappeared under the same treatment, is equally certain. I have not yet collected a sufficient number of facts to authorize me to offer an opinion as to the comparative frequency of the affections of the throat and of iritis, in the cases treated with and without mercury. Eruptions, so far as my observations go, are much more common in those treated without that remedy, than in those whom I have formerly seen treated with it; but in no instance have they ended in ulcerations, as the latter have frequently done. It is to be observed, that eruptions of the same nature and character have succeeded to the foul, indurated, excavated ulcer, and to the simple excoriation; some of these eruptions have been more obstinate than others, and have required a treatment of several weeks, with decoct. sarsaparill. antimonials, the warm-bath, &c. before they have disappeared. But I have not seen the general health more seriously affected in the cases under cure without mercury, than it has been when that remedy has been used. On the contrary, I am inclined to think that it has suffered less. The local applications to some few of these eruptions have been the ungt. hydrarg. nitrat. the ungt. picis, or a mixture of equal parts of both, but in no instance has the most remote approach been made towards affecting the constitution with the mercury con-

tained in the first composition. The local applications to the primary sores, which have preceded these eruptions, have been the blackwash of calomel and lime-water, saturnine lotions, cupreous solutions, and the unguentum resinosum. I have not had occasion to see a single instance in which the bones of the nose have been affected: Some cases of pains and swellings of those of the cranium and the extremities have been met with, but except in two, I have not myself seen any nodes which could be regarded as *unequivocally syphilitic.* One of these has yielded to blisters and sarsaparilla, as many of the anomalous tumours had done before; the other, in which the guaiacum and sudorifics had been employed without effect, but in which the sarsaparilla and blisters had not been tried, has been treated with mercury, and has also disappeared; whether it would not have been combated without mercury, with equal success as the first case, I cannot take upon me to assert, and, in an inquiry like the present, I shall offer nothing from conjecture.

Whether any subsequent series of secondary symptoms may ever appear again in the patients treated without mercury, is a point which experience alone can determine. No army-surgeon, I trust, would be so fool-hardy as to assert, that no such symptoms can, or will ever occur; for, in this case especially, the observation of Bacon is peculiarly applicable, that 'Truth is not the child of Authority but of Time.' But in order to obviate all chance of injury to the constitution of the patients thus treated, the most minute registers are ordered to be kept of the appearances and progress of their cases. Those who have been cured without mercury, undergo weekly health examinations, in common with the other men of their corps, and they are perpetually under the special 'surveillance' of the medical officers; and in instances where they belong to detachments or distant corps, the history of their cases is ordered to be forwarded to the surgeon of the regiment to which they belong, to enable him to keep a constant and scrutinizing watch over them, and thus to appreciate *the permanence of the cures.*

In short, the cure of syphilis without mercury is now under investigation in the military hospitals here, with the same spirit of candid inquiry, as the cure of any other disease by any new remedy proposed on respectable authority. In whatever manner this inquiry may turn out, medical science *must* be benefited. I conceive that a great deal has been done already towards the checking those *abuses* in the administration of mercury, which have indeed been written upon, and talked of much, but which, it is to be feared, have not been acted upon to the extent that they ought. I also apprehend that a very serious advantage will be gained in

favour of those patients, who, with peculiar constitutions and open sores, have hitherto been subjected to long and reiterated courses of mercury, with but little if any beneficial effect upon the healthy, or healing state of their ulcers, and often with decided ill consequences. To this class, the fact that their sores will heal without mercury, is, I conceive, of infinite advantage. I contemplate also much future good to the constitutions of those who may require to be treated with mercury, by suspending at least, if not superseding, its employment indiscriminately, in all states and stages of primary sores. But, above all, I look forward with great anxiety to the elicitation of truth, unembarrassed by the obstacles which ignorance, prejudice, or interest, may throw around it. In the mean time, to employ the language of a great departed genius, 'We should set a proper value on our present knowledge, although it be imperfect; and restrain those rude hands that are ever ready to pluck up the tender plants of science, because they do not bear ripe fruit, at a season when they can be only putting forth their blossoms.' (Beddoes.)

An opinion has been conceived by some persons, that the army-surgeons deny the utility of mercury altogether,—a charge so extravagantly absurd as not to merit serious attention. But if any such military practitioners are to be found, I beg distinctly to disavow their doctrines. To point out, however, some of the numerous cases in which that powerful medicine has been grossly abused, and in which I conceive it altogether improper as a constitutional remedy, shall be the subject of the remainder of this communication. Were the works of Hunter and of Abernethy read as often as they are spoken of, many of the sickening details of curtailed noses, rotten bones, and ruined constitutions, which we daily hear, and which are generally prefaced by an account of long and irregular mercurial courses, in which it was thought best 'to err on the safe side,' would no longer disgrace our profession.

The species of pseudo-syphilis, to which I now mean to confine my remarks, is an affection of the throat, entirely depending on the derangement of the biliary functions, and, though sometimes complicated with, are not necessarily connected with, primary sores on the genitals. The subjects having their own excesses constantly before their eyes, and knowing that affections of the throat and skin are frequently the portion of the devotees of Venus, become alarmed at any affection of these organs, and, in their statement of symptoms, invariably introduce an account of all their Cyprian disasters; and it becomes very difficult to separate the antecedent and the existing state of the constitution in the detail. On inspection of the fauces,

a deviation from the natural state, of a variety of appearances, from increased vascularity to actual erosion and ulceration of the investing membrane, or a rough corrugated state of it, is to be observed, together with more or less tumour of the tonsils. If this affection is of long standing, it frequently proceeds to such an extent as to be productive of repeated sloughing, and of an irritation, thickening, and ulceration of the Schneiderian membrane from continuous sympathy. The obstruction of the natural passage of the air produces a raucity of the voice, and, in the progress of the disease, the destruction of their investing membrane produces the death of the delicate bones of the nose, and sometimes of the palate. This state of the entrance of the primæ viæ keeps up a constant irritation and nausea; often proceeding to the extent of loathing all food, and the rejection of it when forced down. The saliva, and all the fluids which naturally lubricate the pharynx, are, for the most part, hawked up unnaturally in quantity, and vitiated in character. The extremity of the alimentary canal sympathizes with this state of its entrance, and, in some cases, in the advanced stages, an intolerable itching of the rectum, a vitiation of its natural mucus, eruptions extending over the adjoining parts, together with fici and rhagades take place, and horrible suspicions are excited in the mind of the surgeon. The morbid state of the digestive organs, which is soon produced by local irritation and anxiety of mind, brings on irregularity of the bowels; and the invariable answer to all inquiries is, that the patient either has diarrhœa, or constant costiveness, or else perhaps passes very foul, scanty, offensive stools. The countenance indicates great uneasiness, and the skin assumes a dull saturnine and tallowy appearance, and is often mottled with dark-coloured spots, and sometimes with fissures in the palms of the hands. Œdema of the legs comes on in the advancing stages; and, deranged circulation still increasing, the most terrific fancies and alarming dreams, give reason to dread effusion into the chest. If, in this state of complicated wretchedness, the patient is put upon a mercurial course, particularly if he is of a scrofulous habit, his fate is sealed.

For, the cure of this disease, before the constitution has suffered severely, the remedy is nearly certain, and its effects are first to be looked for in the improved state of the alvine excretions. These must be regulated as follows:—Two, three, or more active purgatives must be given, with a day's interval between each, and even repeated, until the stools exhibit a healthy state of the bile. A warm bath should be used in the evenings during this preparatory course, which is merely meant to remove the accu-

mulated feces, and to be introductory to the employment of a medicine of singular efficacy in the re-establishment of the biliary secretions. For this valuable remedy, and for the opportunity of seeing numerous cases of the disease, and having my attention directed to a very large number, I am indebted to the eminent surgeon of Haslar Hospital, Mr Vance. Its composition is as follows—

℞ Hydrargyri submuriat. ℈i. ad ʒi.
Pulv. scammon. opt. ℈ii. ad ʒii.
Pulp. tamarindor. ʒi.—M. ft. elect.

Of this simple electuary such a quantity is to be taken at night as may produce two or three copious stools in the twenty-four hours. * During its use the sarsaparilla decoction is to be employed to the extent of two or three pints in the day, with a moderate quantity of the nitric acid, and a gargle with the oxymuriate of mercury; or, if the sloughs are tenacious, of infusion of capsicum; or a solution of lunar caustic, may be applied by means of a morsel of sponge. The warm bath should be continued two or three times a week, and the general health kept up by regular and steady attention to diet, and by a limited use of good wine.

By these means I have seen, or had access to the history of, considerably more than a hundred cases, which have been perfectly restored to health, in some of which mercury had been tried with the most decided ill consequences. The subjects were principally discharged or invalided seamen and soldiers, naval officers, and persons employed about the dock-yards, who had used frequent and irregular mercurial remedies, and were much exposed to the vicissitudes of the weather during these courses. In some of the cases, open ulcers in various parts of the body, as the groin, the forehead, and the shins, with enlargement of the bones, were superadded to the symptoms more particularly characteristic of the diseased state of the biliary functions.

In Volume XII. of this Journal, p. 186, a paper by Mr Murray of Belfast, illustrated by a plate, has been pointed out to me, which contains a description of some cases that have occurred in his practice, very closely resembling the disease which I have described, while in its early stages. I have little doubt that the same means of cure will be found beneficial in them.

* Whether the combined acids in the tamarind pulp produce any peculiar effects on the other ingredients I know not; but, certainly, none of them separately, or with other acid fruits, produce the same purgative effects and increased flow of bile.

It has been suggested to me, since this paper has been put to press, that it would be gratifying to many respectable surgeons of this city, did I give the comparative length of time required for a cure of the various syphilitic symptoms, which have been treated in the hospitals of the division of the kingdom under my superintendence. It would be most pleasing to me to answer this and every other question, a solution of which might throw any light upon this interesting subject; but, independent of the multiplicity of details into which it would lead me, and the various calculations (for which, at the present moment, I have not leisure) which such comparative views would require, it would be anticipating an essay upon the subject by an ingenious assistant-surgeon, to whose zeal and discrimination I owe many of the facts that I have already stated, and which, having occurred principally in the regiment to which he is attached, are in some degree peculiarly his own. I shall, however, with his permission, state generally, that of 105 primary sores of all descriptions, the healing was effected at different periods, from 5 days to 85. The general period was four weeks; and this, whether the sores possessed the Hunterian characteristics or not. In one obstinate anomalous case, mercury was employed, and succeeded. Of 30 buboes, 21 were absorbed at different periods, from 5 to 45 days; and 9 suppurated and healed up from 30 to 130 days after their opening. Of 11 cases of venereal eruptions, 7 occurred in the form of Acne, 3 in that of Roscola, and 1 in that of Impetigo: the two first generally terminated by desquamation. The period of their occurrence, after the primary sores, was from 3 weeks to 4 months; the period of cure varied from 8 days to 6 weeks, and some are still under cure.

In another hospital, the cures have been considerably longer protracted. That some of them would have been *accelerated* by the use of mercury, is extremely probable; but a mixed mode would obviously have left the trial without mercury incomplete, and its success still dubious. Desirable, however, as it has been, to ascertain how far that powerful mineral may be dispensed with, in the cure of the disease for which it has been so long looked on as the sole specific, the point would have been left undecided, had its decision involved the constitutions of the patients, or compromised the characters of their medical attendants. In no case, I most firmly believe, has the health of an individual been wantonly trifled with; nor has the utmost professional exertion been spared, to elucidate the history of this most interesting and most common of all military diseases, even in the persons of some of the professional men themselves.

Did the officers of the Medical Department of the army, under their most enlightened and active Director, prefer their own ease and convenience to the benefit of science, mercury was at hand to cover their apathy; and even the few facts, which the present inquiry has brought to light, might have gone down to oblivion, with the hundreds of thousands of other facts, which, in the course of more than three centuries, have been confounded, or totally lost, by a blind, non-discriminating, and often fatal confidence, in the powers of *one remedy alone*, to the exclusion of every other resource of art.

Requesting your indulgence for thus long trespassing on you, I beg to assure you, that I am, &c.

Queensberry-House,
Edinburgh, March 14, 1818.

PART II.

CRITICAL ANALYSIS.

I.

Lehre von den Augenkrankheiten, als Leitfaden zu seinen öffentlichen Vorlesungen entworfen. Von G. JOSEPH BEER.

Principles of the Diseases of the Eye, as a Text-Book for his Public Lectures. By G. JOSEPH BEER, M.D., Extraordinary Professor of * the Treatment of Diseases of the Eye in the University of Vienna, &c. &c. Vol. I. Containing Inflammations of the Eye, illustrated with Copperplates. Vienna, 1813. 8vo. pp. 636.

SINCE Richter published his Surgery, and directed the attention of his countrymen to the diseases of the eye, this subject has been prosecuted with very great ardour by the Germans. The result has been, much valuable and important knowledge gained as to the nature of these diseases, and likewise in many cases as to their treatment.

To the progress thus made, none have contributed more largely than Beer of Vienna. His practice and clinical lectures have long formed the principal school in Germany for the study of the diseases of the eye; as much from his great experience and ability as a practitioner, as from his zeal and talents as a teacher. Besides the clinical, he gives a regular systematic course of lectures on the same subject; and it is for the latter that the pre-

* At Vienna two systems of medicine are lectured on; one almost exclusively practical, the other more theoretical. Beer belongs to the first, being professor of the Praktischen Augenheilkunde.

sent work is ostensibly published as a text-book. However, it is to be considered as containng a very full account of the author's opinions and practice, in regard to these diseases.

The volume we are now to give an analysis of, treats solely of the inflammations of the eye, which are described at very great length.

A general view of inflammations of the eye, their causes, and principles of treatment, is first taken. In considering the causes, some useful directions are given for the removal of foreign bodies from the eye.

When one of the ciliæ falls into it, the corner of a fine sponge or handkerchief is the best thing for removing it. Small round bodies, such as beads, usually lie beneath the upper eyelid, and are got out by laying hold of that eyelid by its ciliæ and margin, drawing it outwards, and then making the patient look down, or, while the eyelid is held thus, a small curette is to be introduced under its temporal angle, and carried gently on towards the nose.

Dust and sand should be washed out, by introducing the pipe of a small syringe beneath the under eyelid, at its outer angle, and then directing the stream of fluid over the eye, towards the nose. If some particles still remain, a camel's hair-pencil dipped in mucilage, or fresh butter, passed beneath the eyelid, will remove them.

When small foreign bodies, such as particles of metal, the hard wings of insects, &c. are merely indented in the conjunctiva, a piece of fine silver wire beat thin, and fixed in a handle, is very useful for their removal. When splinters of metal get beneath the conjunctiva, they should be seized with a pair of forceps, and cut off with fine scissors. If they have got in amongst the lamellæ of the cornea, the point of a common cataract needle is to be introduced close behind the body, which is then to be pulled directly outwards. Particles of cantharides, pieces of mortar, and unslaked lime, should be removed by means of a camel's hair-pencil dipped in oil or butter.

Large wounds of the eyebrows are sometimes followed by partial or complete amaurosis, which is sometimes an instantaneous effect of the wound, sometimes occurs while the cicatrix is forming, or a long time after the wound has healed: the same effect is sometimes occasioned by a simple bruise, without a wound.

This amaurosis Beer attributes to different causes. 1st, To the commotion or actual laceration of the retina from the blow. In the first instance the blindness is partial, in the last complete; in both it is coëval with the accident. 2d, To the contusion

and partial division of the branches of the infraorbitary nerve. Here the amaurosis takes place when the accident happens, but not so instantaneously as in the preceding instances. 3d, To the same nervous branches being compressed and stretched by the formation of a cicatrix, or by the cicatrix after it is formed, and where of course the blindness comes on during, or after the healing of the wound. In every case the iris is motionless; but when the amaurosis is dependent on commotion of the eyeball, the pupil is very contracted, while in that from the injury of the frontal nerve it is greatly dilated. There is also extreme sensibility, and deep racking pain of the eyeball, with total insensibility to light, when the retina is ruptured. The amaurosis, from bruise of the nerve, is never complete; the pupil, besides being dilated, is oval horizontally; and the pupillar margin of the iris is reverted, so that its smaller circle cannot be seen; the violent pain and sensibility are wanting.

When the blindness is owing to the partial division of the nerve, all its branches must be carefully divided before the wound is dressed, and the amaurosis will soon disappear. In two cases, where it came on during, and after the healing of the wound, and seemed occasioned by the formation of large cicatrixes, our author completely cured the amaurosis by making an incision down to the bone, immediately below the cicatrix, and completely dividing the nerve.

The inflammations of the eye are divided into idiopathic and symptomatic. In the first, the inflammation goes on in a sound constitution, and its modifications are solely dependent on the cause which produced it, and the nature of the particular texture affected. In the second, that process goes on in a constitution no longer healthy; and the phenomena are modified, not only by its cause and the texture affected, but by the nature of the inflammation itself.

The idiopathic are divided into three genera, and these into species.

I. Genus.—General inflammation of the eyelid.
Species A. Erysipelatous inflammation of the eyelid.
B. Inflammation of the mucous membrane of the eyelid.
Subspecies *a*. Catarrhal ophthalmia.
b. Catarrhal rheumatic ophthalmia.
c. Augenliedtripper or purulent ophthalmia.
C. Stye.
D. Erysipelatous inflammation of the integuments covering the lacrymal sac.

II. Genus.—General inflammation of the orbit.
Species A. Inflammation of the lacrymal gland.

B. Inflammation of the lacrymal sac.
C. Inflammation of the caruncula lacrymalis.

III. Genus.—General inflammation of the eyeball.
Species A. Erysipelatous inflammation of the conjunctiva of the eyeball, and its passage into the rheumatic ophthalmia.
Subspecies *a*. Rheumatic ophthalmia.
B. Inflammation of the outer textures of the eyeball, or external ophthalmia.
C. Inflammation of the inner textures of the eye, or internal ophthalmia.
Subspecies *a*. Internal ophthalmia in its strict signification.
b. Iritis.

The symptomatic are divided into the contagious, miasmatic, and cachectic inflammations of the eye; or they are the effect of diseases communicated by contagion,—of diseases communicated by actual contact,—and, lastly, of particular cachexiæ.

Contagious ophthalmia, *i. e.* from contagions.
A. Variolous ophthalmia.
a. Variolous inflammation of the eyelids.
b. Variolous inflammation of the conjunctiva of the eyelids.
c. Variolous external inflammation of the eyeball.
B. Morbillous and scarlatinous ophthalmia.

Miasmatic ophthalmia.
A. Syphilitic ophthalmia.
a. Real gonorrhœal inflammation of the conjunctiva of the eyelids and eyeball.
b. Syphilitic scorbutic ophthalmoblenorrhœa.
c. Syphilitic iritis.
B. Psorous ophthalmia.

Cachectic ophthalmia.
A. Arthritic ophthalmia.
a. Arthritic blepharoblenorrhœa and ophthalmoblenorrhœa.
b. Arthritic iritis.
B. Scrofulous ophthalmia.
a. Scrofulous inflammation of the meibomian glands and conjunctiva of the eyelid.
b. Scrofulous stye.
c. Scrofulous inflammation of the lacrymal sac.
d. Scrofulous external inflammation of the eyeball.
C. Scorbutic ophthalmia.

The descriptions given of these various ophthalmiæ, are really admirable. In noticing some of them, we begin with the idiopathic. And, first, with the *Inflammation of the conjunctiva of the eyelids*, or the *Blepharophthalmitis glandulosa idiopathica*:

'Under a severe itching, the margins of the eyelids swell, become red, hard, and very sensible. The swelling does not extend above a line or two on the integuments, but proceeds inwards on the conjunctiva of the eyelids, and by this the motions of these parts are impeded and painful. The itching alternates with a burning pain, most felt when the eyelids are opened or shut. While the inflammation is limited to the margins and conjunctiva of the eyelids, with the subjacent meibomian glands, the secretion of these glands is stopt, while the flow of tears from sympathy is increased. This occasions the burning pain, and the excoriation of the skin of the cheek; the tears not being mixed with the secretion of these glands. But when the inflammation extends to the conjunctiva of the eyeball, the secretion of tears diminishes, the eye feels dry, and has the sensation as if sand were in it; a sensation so painful on moving the eyelids, that children and women will scarcely allow their eyes to be examined from dread of it. The second stage begins with a diminution of the itchiness, burning pain and dryness of the eye, while the margins of the eyelids become covered with mucus; this, on exposure to the air, coagulates into thin whitish membranes, which, covering the cornea, create in the patient a dread of blindness. The light of a candle seems veiled, and surrounded with a coloured circle; other objects are clouded. During the night, the mucus concreting, the eyelids are glued together in the morning.

'By degrees the discharge, from being mucous, becomes yellowish, and at length quite puriform. At this time it sometimes happens, that small pustules, which are scarcely visible to the naked eye, form on the margin of the eyelids, and, bursting, create an appearance similar to psorophthalmia.

'The eroded eyelids smart severely on exposure to the air, particularly if it is corrupted; hence such patients feel better in the open street than in a crowded room.

'The symptoms having continued some time, perhaps weeks, from the effect of treatment, or a favourable change of circumstances, such as of living, dwelling, or climate, the discharge, from being puriform, becomes mucous again, and then serous, with which the disease terminates.'

The most important causes of this inflammation are certain states of the air, with the varieties of which we are yet but little acquainted, from their hitherto having been but little attended to. Where numbers of people are crowded together, breathing a corrupted atmosphere, the disease is so common as to be almost epidemic.

The type of inflammation of the mucous membrane of the eyelids, is what we have described; but, under particular circumstances it suffers modifications, which have usually been constituted distinct diseases, as the catarrhal ophthalmia, the purulent, &c.; in a great degree dependent on the state of the air.

What the alteration is, which the atmosphere undergoes by the sudden changes of temperature and weather so often felt at Vienna, is unknown. Not so its effects. For on such changes occurring, particularly in summer, the number of individuals attacked with inflammation of the glands of the eyelids is often immense. But not only the mucous membrane of the eyelids, but that of several other organs, are affected, as of the nose and trachea in the form of catarrh. Hence the subspecies of blepharophthalmitis has very properly been denominated the *catarrhal ophthalmia.*

If an atmosphere, so altered, has acted unequally on different parts of the body, has affected the eye while this organ has been in a state of over excitement, and its surrounding integuments covered with perspiration, then not only the conjunctiva of the eyelids, but the eyeball itself, or rather its conjunctiva, is attacked. It becomes very red, the eye shuns the light, the flow of tears is augmented by every change of temperature and light, a racking pain is felt in the organ and its vicinity, which is greatly increased by lying in bed. Here acute rheumatism is concerned; and such an inflammation should be called a *catarrhal rheumatic ophthalmia.*

But if the atmosphere has not suffered any change, and has been applied simply in the form of a cold current of air to the eye, then no catarrhal symptoms are produced; but, on the other hand, a 'pure rheumatic ophthalmia' takes place.

When the inflammation of the glands of the eyelids appears at or soon after birth, or in adults of a weak constitution, disposed to catarrhal affections, living in a corrupted air, and exposed to the influence of other causes of the disease, then it suffers a peculiar modification, and forms what authors call the ophthalmia purulenta, or neonatorum, blepharoblenorrhœa and ophthalmoblenorrhœa. This modification is owing to the rapid extension of the inflammation not only over the whole conjunctiva of the eyelids, but over that of the eyeball, and also to the cornea and sclerotic coats. The phenomena of the disease are characteristic.

The first stage passes rapidly into the second. The secretion of mucus is very copious. At first it is white and thinnish, afterwards yellow and thick; and at every attempt to open the eye, it gushes out in such quantity as to cover the cheeks. The swelling of the conjunctiva palpebræ is unusually great; at first it is soft, somewhat elastic, smooth, and apt to bleed; afterwards it becomes hard and granulated like a sarcoma. That of the upper eyelid is particularly great and warty; and being frequently everted by the eyelids being forced open when the child

cries, it sometimes happens that it cannot be reduced again. Not unfrequently, before the discharge becomes puriform, a considerable bleeding takes place from the eye, and, in such cases, the puriform discharge is mild, and the swelling of the conjunctiva greatly diminishes after the hæmorrhage. In bad cases the discharge is brownish, and sometimes a thin ichor like flesh washings flows from the eye.

If the inflammation has in the first stage extended to the conjunctiva of the eyeball, this membrane becomes elevated into a pale red, soft, unequal, swelling all round the cornea, which seems sunk in it. In the pit thus formed, the puriform secretion collects during the second stage, and gives the eye the appearance of being in a complete state of suppuration. The conjunctiva of the eyeball never becomes so sarcomatous as that of the eyelids. When the first has been much affected, even in the most favourable cases, the layer of it, covering the cornea, separates partly from this texture and grows muddy. But, frequently the cornea itself turns white, swells, and is converted into a *nidus* of suppuration, bursts, and an opening is left through which the sound crystalline lens is seen; and, at this time, adults frequently see very clearly. Sometimes several openings are formed in the cornea, through which the iris protrudes, forming a lobulated tumour. By the colliquative suppuration the capsule of the lens is soon attacked; it bursts, and the lens escapes, with or without some of the vitreous humour. Finally, the whole eyeball melts, the eyelids become concave, and are closed for ever. In weak children this rapid progress is often accompanied with a severe constitutional affection, and sometimes proves fatal.

The causes of this subspecies are chiefly attributable to a foul atmosphere. Hence in hospitals for lying-in women, and those for foundlings, where the air is corrupted by the lochiæ of the mothers, the crowding together of a number of generally uncleanly people, and by the soiled cloths of the children, there this ophthalmia is, so to say, endemic.

In the treatment of the simple blepharophthalmitis, pure air and cold applications are generally sufficient to check it at the commencement. When the second stage begins, a weak solution of sublimate, with mucilage and vinous tincture of opium is to be applied to the eye. When the discharge gets puriform, gentle astringents are first to be added to, and afterwards to replace this collyrium. If it continues long in this state, pure vinous tincture of opium is to be applied to the eye. When it becomes serous again, a weak red precipitate ointment is to be

used. In the catarrhal ophthalmia, gentle diaphoretics should be given.

The first stage of the purulent ophthalmia is so rapid in its progress, that it is seldom any remedies can be employed to check the disease; however, it may sometimes be stopped in this stage by cold applications, by a smart purge of calomel and jalap, or by applying a leech on the inner angle of the eye. The treatment in the second stage is, in general, the same as in that of the simple blepharophthalmitis, only, from its violence, it must neither be viewed nor treated as a simply local affection. The best local application, when the discharge is puriform, is pure vinous tincture of opium once or twice a day. The solution of sublimate is too powerful for children. The matter should be frequently cleared from the eye, by means of a syringe and warm water, drying the integuments well afterwards, and then applying a warmed linen compress to the eye.

The *erysipelatous inflammation* of the integuments covering the lacrymal sac, is frequently mistaken for inflammation of the sac itself; and when it terminates in the formation of matter between the sac and integuments, the abscess has been opened, on the idea of being in the lacrymal sac, and much harm done by thrusting probes between the skin and muscles.

So long as the sac is unaffected, the swelling has no particular circumscribed hardness; and when an opening is made, the pus is not mixed with mucus.

In the inflammation of the sac, there is an increased secretion of mucus, as from all mucous membranes when in that state. This secretion then becomes puriform, and, not getting evacuated, from the swelling of the mucous membrane of the nasal and lacrymal canals, or the actual cohesion of their sides, it distends the sac, and bursts externally; the opening thus formed usually becomes fistulous. But it does not always happen, that the opening in the sac and skin corresponds. Nay, it sometimes happens, that there is, with one opening in the sac, two or three in the integuments.

Whenever this inflammation cannot be made to terminate in resolution, instant recourse should be had to emollient applications. For, if attempts are persisted in to discuss it, after the morbid secretion of mucus has commenced, the mucous membrane grows thickened and firm; a state very apt to produce a permanent blenorrhœa of the sac. When this organ is felt fully distended, it should be laid freely open, and treated on general principles. When the secretion ceases being puriform, but still continues morbid, gently stimulant injections should be used. Being brought to a healthy state, both in re-

gard to quantity and quality, then, and not till then, is the time for ascertaining the state of the nasal canal, if it has not already become permeable on the subsidence of the inflammation. When there is a fistulous opening in the integuments and sac, the latter must be laid open in the usual way, and afterwards treated as has been just mentioned.

Beer considers the ophthalmia, which committed such ravages among the English and French armies in Egypt, to have been an inflammation of the mucous membrane of the eyelids, which passed rapidly into the blepharoblenorrhœa and ophthalmoblenorrhœa.

In speaking of the origin of the symptomatic ophthalmia, it is remarked, that they appear sometimes as a primary, sometimes as a secondary affection; that is, the inflammation in the eye sometimes has the character of the general constitutional affection at its very commencement. Or, sometimes, these characters only show themselves during the progress of another ophthalmia. For example, a syphilitic patient may be attacked with a real syphilitic iritis as the first morbid change observed in his eye; or, he may have a traumatic ophthalmia, and, during its progress, the syphilitic alteration in the iris shows itself.

The forms of ophthalmia which syphilis produces are, properly speaking, but two; one, the consequence of a suddenly suppressed clap, the gonorrhœal inflammation of the mucous membrane of the eyelids and eyeballs; the other, a real syphilitic iritis.

There is a third and dreadful form, which destroys the eye in a few days, that occurs in individuals completely poxed, and is not the effect of a suddenly suppressed clap, although the conjunctiva is the part primarily affected. But this is a complicated affection, and not the effect of simple syphilis, and Beer calls it the syphilitic scorbutic ophthalmoblenorrhœa.

The first, or the gonorrhœal inflammntion, occurs but seldom. It is a real metastatic affection; the matter discharged from the eye is infectious, like that of clap, and the disease has the same stages. The symptoms are those of the idiopathic inflammation of the conjunctiva, but of increased violence. The swelling of the conjunctiva begins at the margins of the tarsi, and quickly spreads over the whole conjunctiva of the eyelids, and then of the eyeball. The swelling of the latter is redder, firmer, and more equal than that of the same membrane affected with idiopathic inflammation. The intolerance of light, and pain in the eye, are very violent, and the latter so much so, as almost

to produce delirium. The swelling of the conjunctiva of the under eyelid is particularly great, and becomes everted.

A copious secretion of a perfectly white mucus now takes place. The swelling of the upper eyelid becomes frightfully great, and is quite livid. The matter secreted gets puriform; the layers of the cornea, already opaque, become tattered, like the leaves of a well read book; and, at length, it bursts, and the complete destruction of the eye follows.

The prognosis is favourable at the commencement of the disease, if the discharge from the urethra can be restored immediately. This is the first point in the treatment, without which every thing is useless for the safety of the eye. With the actual inoculation of the matter of a clap, or the introduction of irritating bougies into the urethra, warm fomentations are to be applied to the lower extremities; poultices of cicuta and hyosciamus to the perinæum; dry cupping on the same part, with irritating glysters. When the discharge takes place from the eye, the urethra may be inoculated with it; but this does not always succeed, or takes some time to produce the effect.

Authors have spoken of a gonorrhœal ophthalmia produced by the actual application of the matter of a clap to the eye. Beer has seen an ophthalmia from this cause; but the symptoms never exceeded those of a simple inflammation of the conjunctiva of the eyelids, and yielded to the usual remedies.

He has also seen real chancres on the margins of the eyelids, produced by the application of the matter from a sore on the penis, and these healed by the use of the red precipitate ointment, if the constitutional affection had not yet shown itself.

The syphilitic scorbutic ophthalmoblenorrhœa is strikingly different from the gonorrhœal ophthalmia, although it has been generally confounded with it. Indeed, some authors, who have only seen the former, have denied the existence of a gonorrhœal ophthalmia, because the first is never the effect of a retropulsed clap. This frightful ophthalmia occurs but amongst the very refuse of society; in those who have long laboured under a constitutional and neglected syphilis; and who, by their dissolute way of life, have so affected their general habit, that traces of scurvy have shown themselves. Such individuals are most apt to be attacked, who are, besides, uncleanly, spend their days and nights in dirty pot-houses, use bad nourishment, &c.

Without the presence of a gonorrhœa, or without its being suppressed if present, a rapid and monstrous swelling of the conjunctiva palpebræ takes place, beginning at the margin of the eyelid. The swelling is bluish red, without pain, but at-

tended with a troublesome itchiness and burning. There is no intolerance of light. The conjunctiva of the eyeball swells likewise, is of a violet colour, and rises into several larger or smaller bullæ around the cornea. This prevents the eyelids closing; and the conjunctiva of the under one being most affected, it becomes quite everted. The immense secretion of mucus begins almost with the very commencement of the swelling of the eyelids. Both the pulse and the patient are very weak. The constitutional symptoms of syphilis are present, with those of a scorbutic diathesis. The lips are wan, the gums livid, and easily bleed, and the breath is offensive. In 12 or 24 hours after the inflammation has been completely formed, not a trace of the texture of the eye can be perceived. Both eyes are usually simultaneously affected; and at best one a little later than the other.

To lay down a plan of treatment for patients of this kind, is building castles in the air. The patient himself is his great enemy; and, by his corrupt habits, renders useless every thing that is done for him. The ophthalmia must be treated on general principles; no attention must be paid to the syphilis; the least dose of mercury, even of calomel, produces a frightful salivation, or a colliquative diarrhœa.

Syphilitic Iritis. This is the only ophthalmia which, properly speaking, deserves the name of syphilitic, because it is constantly the effect and symptom of general lues. The iris is always the texture of the eye originally attacked by syphilis, but then this iritis may either be primary or secondary. In the first, the first symptoms of a disease in the eye is this iritis; in the last, the eye is affected with a rheumatic or traumatic ophthalmia, but in a few days loses the character of these, and a real syphilitic iritis shows itself.

The first symptom is a very pale redness of the sclerotic all round the cornea, forming a ring whose colour is deepest at the margin of the cornea, and gradually disappears towards the periphery of the eye. By degrees, a network of fine vessels show themselves in the conjunctiva, which are likewise most distinct towards the cornea, and fade at a distance from it. When this network is moved in the motions of the eye, the much less red sclerotic is seen glistening through. During this, the cornea becomes universally and equally dim; without being opaque in any place, it loses its clearness. This seems dependent on the collection of a fluid between its lamellæ; for as the inflammation proceeds, the cornea becomes more and more prominent. The aqueous humour seems likewise not quite transparent.

As soon as the redness is seen in the sclerotic, the iris is observed to be limited in its motions. The pupil is contracted,

and is moved from the centre of the eye upwards and inwards; it loses its circular form, and becomes very jagged. The colours of the larger and smaller circles of the iris are altered, and the membrane itself swells and projects forwards. With these there is a very disproportionate intolerance of light, which increases towards evening; a painful sensibility of the whole eye, and an epiphora, increased on every change of temperature and light. Lastly, a nightly pain, strictly limited to the eyebrow, takes place. It begins from 5 to 7 in the evening, reaches its height about midnight, and goes off towards 4 and 5 in the morning. With every such attack of pain the symptoms are aggravated. White streaks of coagulable lymph are seen stretching from the edge of the pupil towards the centre of the capsule of the lens. If the disease is not now stopped, small reddish brown condylomata appear on the pupillar or ciliary margins of the iris; these grow pretty fast, press the iris backwards, and fill the anterior chamber. Real syphilitic ulcers sometimes appear on the cornea, or the white of the eye, and nodes on the margin of the orbit, usually towards the root of the nose.

This ophthalmia cannot be cured without curing the general lues. But if, while this was doing, nothing was done for the eye itself, that organ would be lost in the time. For, with every evening's attack of pain, the quantity of lymph effused into the anterior chamber is increased, and consequently diminishes vision. To obviate this, while the corrosive sublimate dissolved in sulphuric ether, and combined with opium, is given internally, a small quantity of mercurial ointment, to which some opium is added, should be rubbed well in over the eyebrow, a short time before the attack of pain commences. And, if the pain threatens to appear about midnight, this friction must be repeated. No local application to the eye itself can be borne, so long as the ophthalmia has the inflammatory type. But, when this is removed, stimulants are of great service; such as a weak solution of sublimate, with dry warmth, or a weak red precipitate ointment. After using fluid applications, the space round the eye is to be well dried.

Arthritic Ophthalmia. Gout produces but two forms of ophthalmia; one an erysipelatous inflammation of the eyelids and eyeballs, which quickly passes into a dreadful blepharoblenorrhœa and ophthalmoblenorrhœa; the other an inflammation of the iris.

The arthritic blepharoblenorrhœa and ophthalmoblenorrhœa appear only as a real metastasis of gout, having always followed its retropulsion in the great toe, from the application of cold moisture.

It commences with a pale red vesicular swelling of the integuments of both eyelids, beginning at their margins, accompanied with a burning pain. The more this erysipelatous swelling increases, the more distinctly there forms a large blister at the margins of the eyelids, containing a yellowish transparent lymph. The swelling spreads rapidly over the conjunctiva of the eyeball, which likewise forms vesicles round the cornea. First, a simple epiphora appears, which quickly changes into the discharge of a very thin but sharp mucus; and then the usual symptoms of ophthalmoblenorrhœa appear, even as violent as those of the syphilitic-scorbutic kind. In a few days the eye is totally destroyed, with more or less general fever.

This ophthalmia proceeds so rapidly, that if once barely formed, the eye is lost. Nothing is of any avail to the eye, if the gout be not brought back to the foot. For this purpose the feet are to be put into hot water, into which a quantity of mustard powder has been added, or a sharp sinapism is to be applied on the leg, from the ankle to the calf, and kept on as long as the patient can bear it. Or a blistering plaster may be put on the calf of the leg; but this is more tedious in its operation.

The *Arthritic Iritis* appears either as a primary or secondary affection; most frequently the latter, for it usually arises from a rheumatic ophthalmia.

The primary arthritic iritis, to a superficial observer, has great similarity to the syphilitic, and it unfortunately happens that there sometimes is a complication of both.

It is sometimes preceded by a peculiar sensation all round the orbit; the patient feels as if a single hair were constantly hanging over the face, or as if something was creeping on the skin. The first symptom is a shooting pain, which, at first, is confined to the neighbourhood of the frontal sinuses, but quickly extends to the temple and whole half of the head, if but one eye is affected, and then shoots into the upper and under jaw. With the repeated motions of the eyelids, a white fine froth collects on their margins; an increased flow of tears takes place; the sclerotic becomes of a rose-red colour all round the cornea, which fades towards the periphery of the eye. The blood-vessels producing this redness do not, as in the syphilitic iritis, advance to the margin of the cornea, but stop at a little distance from it, leaving a narrow ring of white all round the cornea. This ring becomes more distinct, as soon as a network of vessels are likewise seen in the conjunctiva. These vessels in the latter membrane, from the very first, show a strong disposition to be varicose, which becomes more manifest as the iritis proceeds.

With this, the sclerotic gets a dirty colour, or greyish violet. And now the symptoms of inflammation are first seen in the iris: these, however, are not the same in all cases.

In lank individuals, of a very irritable constitution, with a tense fibre, the usual appearances of iritis take place, viz. expansion and immobility of the iris, jagged contraction of the pupil, alteration in the colour of the iris. But the pupil keeps its natural position. Independent of the bluish white ring round the cornea, the only characteristic symptom is a varicose state of the blood-vessels of the iris, which can be seen with the naked eye, but better with a magnifying glass. The pupil becomes more and more contracted; coagulable lymph is effused in it, which at length totally impedes vision, and even produces an absolute insensibility to light. If the disease is neglected, the eye becomes atrophic, while, to the last, it possesses its proper texture. After this the same process goes on in the other eye, if both have not been simultaneously attacked.

In gouty individuals, of a full habit of body, not very irritable, and of a lax fibre, the iris, instead of expanding, contracts, notwithstanding the other phenomena of swelling, immobility, and alteration of colour are the same as in the preceding case. The pupil is not equally enlarged, but principally towards the angles of the eye, the iris towards these points, particularly the outer, becoming narrower and narrower. This oval form of the pupil, gives it a resemblance to that of ruminating animals, at the same time the pupillar margin of the iris is reverted, a deep-seated greenish opacity is observed, apparently seated in the vitreous humour: the lens now becomes affected; it assumes a sea green colour; swells, and projects into the anterior chamber, forming the Cataracta iridis. The pain is now more constant and violent; the varicosity increases, and bluish swellings sometimes arise in the sclerotic, and there is total insensibility to light. However, the patient rejoices at seeing what he supposes the external light, but which is merely an effect of the oscillation of the blood-vessels alternately compressing the retina, and seems to be of the same nature as the perception of a fiery circle when the eyeball is suddenly but gently compressed with the finger. The disease having reached the greatest height, the eye becomes atrophish, as in the preceding case. The other eye is sooner or later affected with the same ophthalmia, or at least with glaucoma.

The arthritic iritis is always a dangerous one for the eye; particularly when it is a primary affection, and most so in the last characterized individuals. A recurrence of the disease is apt to be occasioned by the slightest causes.

In the treatment of this, as of the syphilitic iritis, particular care is to be paid to prevent the attacks of pain in the eye, and for the same reasons, viz. as aggravating all the symptoms. For this purpose moistened opium, alone, or mixed with volatile liniment, is to be rubbed over the eyebrows. This is only a palliative application, for, to cure the ophthalmia, the gout itself must be cured. With general treatment, simple dry warmth, applied to the eye, is the sole local application; while a permanent issue has the most decided effect in removing quickly or rapidly the danger from the eye; for effecting which, our author recommends the ointment of tartrate of antimony and potass rubbed on the nape of the neck, the effects of which are most striking. If the danger is urgent, the frictions are to be made behind the ear.

The plates which accompany this volume contain eighteen drawings of inflammation of the eye. They are in general beautifully executed, and, for *truth* and *accuracy*, equal those of Mr Wardrop's morbid anatomy of the eye.

II.

A Letter to the Right Honourable and Honourable the Directors of Greenwich Hospital, containing an exposure of the measures resorted to by the Medical Officers of the London Eye Infirmary, for the purpose of retarding the adoption and execution of plans for the extermination of the Egyptian Ophthalmia from the Army, and from the Kingdom, submitted for the approval of Government. By Sir William Adams, 8vo, pp. 152. London, 1817.

Observations relative to the Treatment by Sir William Adams, of the Ophthalmic Cases of the Army. By John Vetch, M. D. Physician to the Forces, Member of the Medical and Chirurgical Society of London, and of the Royal Medical Society, Edinburgh. 8vo, pp. 26. London, 1818.

The purpose of these publications is the same, but their manner is very different. Both authors claim the merit of having deserved well of the army and the country, by their pro-

fessional skill in the treatment of certain forms of the Egyptian ophthalmia: but Dr Vetch's statement is concise, perspicuous, and convincing; while Sir William's is prolix, confused, and inconclusive. The former, keeping one object steadily in view, has no explanations to make, no unfavourable impressions to remove; the latter, instead of going straight forwards, turns to the right and to the left to repel attacks real or imaginary, which his pretensions have provoked, or to dispute the claims of rival oculists.

We shall place their introductions in immediate contrast. Sir William addresses the Directors of Greenwish Hospital—

'It is one of the most painful circumstances of life, when a man who is conscious that he has endeavoured to govern his whole conduct, moral and professional, by the most undeviating rules of honour and integrity, feels himself called upon to repel attacks that have been made upon both. Hitherto, I have in silence borne accumulated injuries; but there is a point beyond which, forbearance becomes criminal. I shall at length defend myself.

'It is a duty I owe to you, who have been pleased so publicly to express your entire approbation of my conduct, to prove that I am not unworthy of that approbation. It is a duty I owe to myself, to resist the calumny which from so many quarters, with a kind of incorporated strength, assails me; and, though last, not least, it becomes me to yield to the urgent recommendation of friends, who have known me well, and known me long, to dismiss (and they are convinced I have it in my power) the various stigmas which are attempted to be fixed upon my moral and professional character.'—p. 1.

Dr Vetch commences his statement with the following sentences.

'At an early period with respect to the appearance of ophthalmia in the British army, I was placed in charge of the hospital established for the reception of that disease; and having conducted with success the treatment of more than three thousand cases when its ravages at other places were great and alarming; I am in a more particular manner called upon to examine, with some attention, the grounds on which Sir William Adams has advanced pretensions to the discovery of 'those new and successful methods of treating the disease,' which have been announced to the army, in the circular letter of the Right Honourable the Secretary at War, dated August 1817.

'In consequence of a statement, made by the Right Honourable the Secretary at War, in the House of Commons, in the latter end of the Session of Parliament of 1816, which gave me the first authentic information of the nature of the claims advanced by Sir Wm. Adams, to a more effectual treatment of the ophthalmic cases of the army—I lost no time in submitting a detailed account and return of the success which had marked my treatment of the acute disease, both with a

view to its cure and eradication from the army; as well as of that affection of the cornea which is liable to supervene, when the previous disease has been neglected or mismanaged.

'This statement I was led to submit, less in justice to my own claims, than in behalf of those who were practically concerned in the issue of the question; inasmuch as the pretensions of Sir Wm. Adams led to the temporary substitution of a severe and ineffectual operation, in the room of that treatment which I had successfully employed, in a wider range of cases than, it is to be hoped, will again occur in military practice; and the efficacy of which I professed myself willing to demonstrate, if admitted to a fair and comparative trial, with any means it was in the power of Sir Wm. Adams, even at that time, to suggest.' pp. 3, 4.

The points at issue between Sir William Adams and Dr Vetch are chiefly the following.

1. Sir William asserts, that in exhibiting tartar emetic, so as to keep up violent vomiting for eight or ten hours, he has discovered a method of entirely stopping the Egyptian ophthalmia in ten or twelve hours, leaving the eye and its appendages wholly free from any morbid change, which has been completely successful in every instance where it has been adopted by his direction; whereas, after blood-letting and the other modes of treatment have been carried to the utmost extent, the disease, though it may be thereby rendered more mild, will still run its course, and leave the conjunctiva much diseased, giving rise to frequent relapses, and the further propagation of contagion. (Letter, p. 26.)

Dr Vetch, on the contrary, contends, that if far more efficacious means, viz. general depletion, and powerful local treatment, are not had recourse to in the genuine form of the disease, the termination will add to the number of those who have already fallen victims to its ravages, and will soon prove that innovation may be tried at too great a risk.

'With respect to Sir Wm. Adams's treatment, in the commencement of the disease, by violent vomiting, I shall say but little; convinced as I am, that even he himself, should he ever see a case of real Egyptian ophthalmia, in its violent and purulent stage, will not venture to place his principal trust in such a remedy.

'On this head he has manifestly founded his conclusions relative to the treatment of the purulent ophthalmia, which prevailed in the army, from the *catarrhal* form of disease, which chiefly shows itself among children when much crowded together, and which, although an infectious disease, is specifically different from the one with which I have had to combat; or, at the most, his experience of the purulent disease, in its early stage, has been confined to its appearance at the

Military Asylum, where the age or the sex of the patients prevented it ever acquiring the excessive violence which it assumed in the army.' —pp. 5, 6.

This, therefore, is a question of practice, about which our authors differ, and not of priority of discovery; and, so far, it is both more important to the public, and less irksome to ourselves to investigate. Sir William asserts, that, in his practice, violent and repeated vomiting has invariably cured Egyptian ophthalmia in eight or ten hours; and Dr Vetch, without having seen this practice tried, is of opinion, that it is quite inadequate to the cure of the genuine disease. The question then is, Was it the genuine disease which Sir William treated by violent vomiting? This point can be determined decisively only, by Sir William succeeding with patients admitted by Dr Vetch, or others well acquainted with this dreadful disease, to be affected with it in its genuine form. *A priori*, we would not expect much benefit from this treatment; and we cannot at all accede to Sir William's explanation of his *modus operandi*, which is confused and inconsistent in the highest degree. Mr Saunders had been in the practice of giving emetics at the commencement of acute ophthalmia, so as to keep up nausea; and Sir William, in his desire to prove that he was not indebted to his master for any part of this extolled discovery, states expressly, that Mr Saunders's 'object was to *lower* the action of the heart and arteries as a *sedative*' to the circulation, while his own, Sir William's, *on the contrary, was to increase in the highest degree* their force and frequency, in order to excite a *new action* in the inflamed vessels, and thereby *at once* to destroy inflammatory action, which can only be effected by the most violent stimulus to the circulation.' (p. 58.) With this distinction, so strongly expressed, we cannot easily reconcile a second intention which he had in view, 'by keeping up *continued sickness and vomiting* for so many hours, considerably to exhaust the animal and vital powers, whereby the circulation would become so languid, as almost to amount to syncope, during which it is impossible inflammatory action would proceed.' (p. 57.) In the one place, we are told, that the most violent stimulus to the circulation is the only means capable of exciting a new action in the inflamed vessels of the eye, and of thus destroying at once inflammatory action; and, in the other, that this same action cannot possibly proceed in a very languid state of the circulation; which involves the absurdity, that a state of the circulation, almost amounting to syncope, and its being increased, in force and frequency, in the highest degree, is one and the same thing.

His account of the discovery and first trial of this paradoxical treatment is also suspicious. He tells us, that the idea of this practice originated from the effects of some hours continued sea-sickness upon himself, which were precisely those described, and he resolved to imitate it, in order to cure violent acute ophthalmia, which practice he had soon after an opportunity of successfully trying upon a number of persons in St Pancras work-house, affected with the Egyptian ophthalmia. (p. 57.) Sir William must possess some uncommon, we had almost said supernatural, sensation of external agencies; like the *clairvoyans* of the animal magnetisers, who, in their ecstasies, possess a perfect knowledge of what will do them good and harm; for, upon the strength of his sea-sick feelings did he undertake to cure the Egyptian ophthalmia at its very commencement, and liberally communicate his untried mode of treatment to the House Surgeon of St Pancras work-house. As might be anticipated, a cure thus miraculously discovered operated like a charm, 'by curing the disease, as the Governors assure us, in less than twelve hours after its commencement, in every instance where it was administered, whereby the ophthalmia, within a month after the adoption of his new mode of practice, was effectually checked, and prevented spreading further through the house.' (p. 47.) This vomiting treatment, however, it appears, is so severe, that it is only fit for public practice; and although Sir William would employ it on himself, if he were again attacked with Egyptian ophthalmia, he has never ventured to adopt it on patients in private practice. (p. 58.) Does Sir William mean to say, that he allows the disease to proceed in his private patients, when he could arrest it; or that he employs a more severe treatment with the poor, when he is acquainted with a less harsh method, that is efficacious with the rich? There is still another palpable inconsistency, or rather contradiction, in regard to this vomiting practice, which we cannot pass over. In page 26, he says, 'from various quarters I have learnt that other practitioners have been equally successful as myself;' and, in page 58, he asserts, that the same 'is a mode of cure which, as far as I can learn, no one but myself *has ever practised.*' Truth is always consistent with itself. We cannot explain these apparent inconsistencies; and, therefore, in regard to the efficacy of vomiting in recent ophthalmia, we consider ourselves justified in preferring Dr Vetch's doubt, founded on intimate acquaintance with the disease, and reasonable analogy, to Sir William's positive assertion, the parts of which we cannot reconcile with each other.

2dly, Sir W. Adams also represents, as a very valuable dis-

covery, his method of treating the third stage of the Egyptian ophthalmia; claiming therein an improvement upon Mr Saunders's method of curing the granulations of the lids, and also *originality* in the removal of the opacities of the cornea, the cause of the consequent blindness. (p. 23.) Dr Vetch denies that, in this respect, Sir William has any merit, either as discoverer or improver. It appears that Mr Saunders was aware of the granular state of the conjunctiva, and change of structure, which is occasionally produced by the Egyptian ophthalmia, and which protracts the disease in its chronic form; and he long practised with success the excision of the granular portions of the conjunctiva. For this operation he preferred the scissors to the knife, and he prevented the morbid growth of the conjunctiva, by frequently injecting on it a solution of alum, or the nitrate of silver. (p. 52.) Sir W. Adams says, that he was obliged to abandon Mr Saunders's mode of treatment, as painful, slow, and inefficient (p. 22.); and to substitute another of his own, which consisted in removing the whole of the granulated and thickened membrane, with a very small sharp cutting scalpel, and in preventing its regrowth by astringent applications, generally a solution of alum. Sir William also claims the exclusive merit of his 'discovery of a method for removing opacities of the cornea, without which the removal of the granulations will be of little or no benefit to vision' (p. 39.); regarding which, he positively denies having received any information from Mr Saunders, or any other person. (p. 23.) In what this method consists, Sir William takes care never to explain; we say, takes care, because he lays so much stress upon it, and argues so much concerning its originality, that we cannot ascribe to inadvertence or accident his giving no information concerning it; unless, indeed, it be the injection of the solution of alum. It would seem that Dr Vetch is not better informed of Sir William's method of curing opaque cornea than ourselves.

'I proceed to examine the nature and the efficacy of the discovery, claimed by Sir Wm. Adams, for the cure of opaque cornea. With respect to his present practice, I must presume, that he either adheres to his original plan of treatment by excision, which I have declared, and which I can now prove to be from his own evidence (independent of many objections to its general application) incompetent of itself to the cure of the disease; or, that he is forced to combine with the operation those very means which it was introduced to supersede, and of which, I may venture to say, that Sir Wm. Adams has still something to learn, both as to their value, and their proper mode of application. I shall, therefore, in the first place, submit some general observations respecting the disease itself; and, in the

second place, I shall review the statements, now published, of its practical results.

'It has been objected to the claims of Sir Wm. Adams, that he took the knowledge of the operation from the practice of the late Mr Saunders; I must, in justice to myself, observe, that in my Account of the Ophthalmia of the Army, printed in 1806, when it would be easy to prove that I could not have had access to the opinions or practice of Mr Saunders, I distinctly, and prior to any modern writer, made use of the term of Granular Surface, to describe the diseased state of the linings of the palpebræ, which supervenes on purulent ophthalmia; and explicitly mentioned the bad effects resulting from the excision of the surface so diseased, and the means which I then found, and still assert to be better adapted to the purpose of restoring the membrane to its healthy condition. My subsequent experience rendered the cure of opaque cornea, depending on that diseased state of the palpebral linings, so much a matter of uniform result at the Ophthalmia Hospital, that, long before I heard that there was such a person as Sir Wm. Adams, I had no reason to doubt but that my success was both understood and appreciated.

'If it be objected to these early operations, that the scissors were used instead of the knife, I beg to say, that both these instruments had been repeatedly employed; and I do not scruple to assert, that where the operation is required, the scissors are the better instrument of the two; that the surface which follows excision by them is less irritable, and less disposed to a reproduction of fungus; that there is also less risk of wounding the semilunar cartilage of the palpebræ, an accident very likely to occur in the mode of operating performed by Sir Wm. Adams, and which I apprehend to have happened in some cases where the operation has led to a termination fatal to the organ.' pp. 7–9.

But to prevent all cavil about the date when these observations were published, we have pleasure in making copious extracts from a pamphlet on opaque cornea, published by Dr Vetch 30th March 1812, at Chichester, consisting of only sixteen duodecimo pages; and although upon its unassuming title-page we find no mention of plans for the extermination of the Egyptian ophthalmia from the army and the kingdom, it contains much more valuable information on the subject than Sir William Adams has ever communicated.

'If the membrane is very much thickened, it will sometimes expedite the cure, to remove a portion of it with the scissors. But I have long relinquished this as a general practice, having experienced a much greater certainty of success, and permanency in the cure, by trusting, for the removal of the disease, to the use of the sulphas cupri applied daily *in substance* to the part, occasionally substituting the argentum nitratum, if there is any considerable mass of granulation.

These, together with the use of the liquor plumbi acetatis dropped into the eye in its *undiluted* state, as long as any degree of purulency remains, will at all times produce the most perfect recovery of which the eye is susceptible. The singular and specific efficacy of the last mentioned remedy in all the stages of purulent ophthalmia, is so remarkable as to render it incumbent upon me to make it known by every means in my power, and to recommend its general adoption in army practice. In doing this I am free from any predilection which a remedy of my own suggestion might occasion, the public being indebted to Mr Knight, late inspector general of hospitals, for its first employment in the treatment of ophthalmia.

'A lamina of cartilaginous structure occasionally forms in long protracted and neglected ophthalmia between the conjunctiva and the palpebræ, exactly similar to what has been met with between the attached surface of the urethra and corpus spongiosum. This affection will sometimes remain after the conjunctiva which covers it has recovered its natural appearance, but more frequently it keeps up the diseased state of the membrane, and can only be removed by excision.' pp. 14, 15.

We shall not follow Dr Vetch through his satisfactory proofs of the inaccuracy of Sir William Adams's statement of the success of his treatment upon five patients received from the hospital under Dr Vetch's directions. If Sir William's other instances of success are no better founded than these, he will have little to boast of, even without taking into consideration the extraordinary and unfair advantage given him over the regular army surgeons.

'I must not omit to mention, amongst the difficulties which I had to surmount, in the management of army cases, the practices used by men, for the purpose of retarding their recovery, and of resisting the means of cure, when they wished to obtain their discharge from the service. On the occasion of the cases selected by Sir W. Adams for the trial of his treatment, an official letter was sent by the Adjutant-General, to the Commandant of the Depôt, conveying a promise to the men so selected, that in the event of their recovery, under the treatment which Sir Wm. Adams might employ, they would receive each a bounty of thirty-six guineas, or a free discharge and a pension. The moral obstacles being thus removed, the little success which seems to have followed, can only be imputed to the injudicious use of the operation; the occasional effects of which may be learned in the cases preceding those to which I confine my observations. I am fully warranted in the belief, that if these men had been simply removed to a healthy situation, and if the offer made to them of a free discharge had been allowed to operate in place of Sir Wm. Adams, the result would have been more favourable than it has actually proved.' pp. 12, 13.

The third claim of Sir William Adams consists in asserting, that he *first* called the attention of the Medical Board to the importance of restoring the healthy state of the palpebral linings, previous to the discharge of the patient. 'In 1812, (after Mr Saunders's death), I was the first person who demonstrated and proved the general existence of this peculiar form of disease to the late Director-General and his colleagues, at the Army Medical Board.' (Letter, p. 34.) Again, 'It has been acknowledged by the late Director-General, the Medical Board, &c. &c. and proved by the testimony of the men taken from the Ophthalmic Depôt at Bognor, that the third stage of the disease (the general existence of granulations) was wholly overlooked and unknown in the medical department of the army, until I demonstrated it at the Army Medical Board, and at York Hospital, in the beginning of 1812.' (p. 39.) 'If, therefore, the army surgeon is now capable of curing this description of case,' after its nature has been explained, 'it is to me Government is indebted for the information.' p. 62.

Let us now see what Dr Vetch says to this.

'On this very point I am willing to rest the whole of my claims to consideration; for however great the saving has been to the nation, by my successful treatment of more than three thousand cases of this formidable disease, (and of which success, I again invite the most minute and severe scrutiny); yet this saving of men is not to be compared with the benefit derived by my unwearied exertions in calling attention to this particular point of practice. Charges have been preferred against me in consequence of what I may call a religious adherence to this rule, which I was the first to introduce into practice, and on which, I well knew, the immunity of the army from the disease would in a great measure depend. The issue of one charge, preferred by a general officer, supported by the certificate of surgeons, who were ignorant of this important feature of the disease, after much vexatious inquiry, procured me a letter full of approbation from His Excellency Sir David Dundas, dated 9th of November 1809.

'To prove my undeviating attention to the restoration of the healthy colour and condition of the palpebral linings, previous to the discharge of any man to his regiment, I can call upon every individual who ever came under my care for this disease. Not one of them was considered cured, until this point was confirmed, by repeated and careful examination of the inner surface of the eyelids. Their testimony will be corroborated by every military or medical officer employed in duty along with me, from the latter end of 1806, when I first took an independent charge of the disease, to the autumn 1812, when I resigned it.' pp. 21, 22.

The statement in Dr Vetch's earlier publication is still more

conclusive against Sir William's repeated assertions, that the army surgeons neglected the morbid state of the lining of the palpebræ.

'In the tract on ophthalmia, published in 1806, of which I have already spoken, I was at pains to point out that the conjunctiva was the original and principal seat of the disease; and that portion of it, which lines the palpebræ, to be the first part which it invades, and the last from which it disappears. This observation enabled me, on taking charge of the management of the disease in an extensive manner, to establish a criterion of recovery, which, by securing the patient, as much as he ever can be secured, from the danger of relapse, or from the power of communicating the infection to others, has contributed most essentially to the good which has been effected by the establishment of this depôt. The observation being of the greatest consequence in army practice, although somewhat irrelevant to the present subject, I shall here repeat, as I have taken every opportunity of doing, the principle on which it rests. Long after a person who had laboured under an attack of Egyptian ophthalmia has, to the eye of a common observer, entirely recovered from any remains of the disorder, the conjunctiva lining the palpebræ will be found, on examination, still highly red and villous, secreting a small quantity of ropy matter; and, so long as this partial affection of the conjunctiva remains, the patient continues liable to a relapse of all the former violence of the disease, on the slightest excess or irritation. This matter, if not at all times capable of communicating the disease, when conveyed to the eye of another person, does certainly acquire the property of infection in its most virulent degree, whenever it is secreted under a very slight increase of inflammation, as I have found by experiments, the particulars of which I shall take another opportunity of relating. The natural appearance, therefore, of the globe of the eye only, is never to be considered as any proof of the perfect recovery of the patient; and the disease can never be effectually eradicated from any regiment or body of individuals, if convalescents are permitted to mix with the healthy before the lining of the lower palpebræ has attained its white and healthy appearance.' pp. 6—8.

To leave no doubts on the subject, we shall quote a few passages from Dr Vetch's publication of 1807, entitled, 'An account of the Ophthalmia, which has appeared in England since the return of the British army from Egypt.'

'When the violence of the disease remits, the external tumefaction of the palpebræ becomes less tense, the tarsi separate from each other, and assume a gaping appearance; the internal surface of the palpebræ remains, however, for some time, so much swelled, as to prevent the examination of any other part, and over its whole extent presents the appearance of *granulation*.' p. 54.

'This appearance of granulations, besides the interesting inquiry which their formation on this part presents, from the great luxuriance with which they sometimes increase, becomes a symptom of considerable practical moment.' p. 55.

'It seems to occur to the greatest extent on the upper eyelid, but is more tedious in its removal from the lower.' (p. 55.) 'On examining the lower eyelid minutely, besides the vascularity of its internal surface, a slight degree of ulceration may often be detected at its lower part, when an accumulation of pus is likewise apt to take place. In this state of the disease any irritation to the eye or to the system, is sufficient to cause a relapse as violent as the original attack, rendering the termination of the disease very uncertain to the patient, while there is little reason to doubt that it remains capable of infecting others.' p. 67.

Sir William Adams cannot plead ignorance of this publication, as, after again stating that he was the first person to demonstrate to the late Director-General the nature and seat of the granulations of the eyelids, and their appropriate mode of cure, he adds,

'Indeed, that eminent and candid physician, Dr Vetch, whose practice, contained in his excellent treatise on the Egyptian Ophthalmia, has, in a great degree, heretofore regulated that of the army, subsequently sent me a polite and gratifying message, by an army surgeon, thanking me for the introduction of a practice into the army, which promised to be so highly beneficial.' Letter, p. 61.

It thus appears that Dr Vetch was acquainted with the morbid alteration of the conjunctiva in 1806, before Sir William Adams had even entered upon the study of the diseases of the eye, having only begun his attendance on Mr Saunders's Dispensary in May 1807, after one year's professional study in London, and a country apprenticeship of five.

If a reward, then, is due by Government,—if the thanks of the country are due on account of the discovery of the real nature of the disease,—that reward, and those thanks, are due to Dr Vetch, and the other well educated military surgeons who performed their duty zealously and ably, and communicated freely and unostentatiously, every improvement in practice, as it was made; and not to Sir W. Adams, who has not advanced our knowledge of the Egyptian ophthalmia a single step.

Sir William Adams is, indeed, exceedingly indignant at an assertion, that he had applied to the Duke of York for a grant on account of his success in the treatment of ophthalmia, and states, that he offered his professional services and experience to Government gratuitously, without any selfish regard to his private interest. That he made no application for a grant, directly

or indirectly, we would have believed, even without the certificate of the Adjutant-General; but that, in his offers to Government, he had no selfish regard to his private interest, we cannot believe, nor will any person acquainted with the principles of human nature, give Sir William credit for his assertion. Could Sir William imagine it possible for us to overlook his correspondence with Mr Saunders in 1809, in which he proposed to that gentleman to unite in an application to Government? 'Write to me, and say how I am to act, in whose name it is to be brought forward, and in what manner;' or Mr Saunders's indignant reply, 'Your views can only be the enhancement of your own professional character, whilst mine you neglect, even when your notions originated from the observations made on the case of Mr Fidkins,' or his own humble explanation.

'I also added, that General Thewles, over and over again, assured me that any improvement of practice would be instantly attended to, and the inventor liberally rewarded, if the plan was to prove extensively useful. He also thought it probable that Government would establish hospitals, and call in all the pensioners to be examined by us. Do not, therefore, miss an opportunity so favourable as the present. I will act for you as for myself. I will get him to forward any proposition you would wish me, and entirely keep myself in the back ground. If my plan of treatment on trial should be found useful, *do with it what you please, and consider it as your own.* I again declare, sacredly, that I should ever think myself ungrateful and dishonourable, had I acted otherwise than I have done,—namely, asking, and being guided by, your wishes.' p. 12.

It is apparent, from his friend Mr Russell's letter to Sir William, which, he sagaciously observes, requires no comment, that he considered that he lost a chance of dividing a government grant, by the obstinacy of Mr Saunders, and peculiar views of his private interest.

'*You (Sir William) then said, the business must drop, as you would rather lose the chance of gaining* 5000*l., than do any thing which Mr Saunders might consider as ungrateful towards him, from whom you had received so much professional information.*

'I perfectly recollect lamenting to you, that so fatal a disease as the ophthalmia should be suffered to go on in so great a degree unchecked in the army, because an individual thought it his interest to keep the mode of cure a secret for the time being.' p. 11.

Mr Saunders died in February 1810. Sir William, then at Exeter, goes to London in March, and gets himself presented to the Adjutant-General, and, at his desire, writes him a letter, in which, after stating, that within the last few months he had

perfectly cured from fifteen to twenty cases of ophthalmia in its third stage, he makes the following modest proposition.

'I therefore, Sir, with great confidence, venture to assert, if all the ophthalmic pensioners in the United Kingdom were called in, and those selected for treatment whose cases admit of being cured, that an immense expense would be saved to the Government, which is now paid to them in pensions, besides restoring to the service a very considerable number of ready-disciplined soldiers,—a measure which humanity as well as policy seems strongly to recommend.' p. 17.

He returned to Exeter; and his proposition, very properly, was not carried into effect. He had no intention, as he says, of renewing the subject, until, on his coming to settle in London the following year, he happened to be professionally consulted by a near relation of the Adjutant-General, which was too good an opportunity to be lost; and, accordingly, the proposition was repeated. This pertinacious interference with the regular servants of the department, we do not hesitate to condemn, especially when we consider, that, at this time, Sir William had treated but a few patients in the third stage of ophthalmia, being only from fifteen to twenty, up to the 1st March 1810; and when we compare it with the infinitely greater experience, and more confirmed success of the medical officers of the Ophthalmia Depôt at Bognor.

'*Extract from a General Return of the Ophthalmia Depôt, from the 17th November* 1807 (*the date of its establishment*), *to the 12th March* 1812, *showing the result of the treatment of Opaque Cornea.*

Admitted.		
Labouring under opaque cornea, with vision either lost or impaired		536
Discharged.		
Cured of both eyes—to their regiments	65	
Ditto, ditto, but transferred to veteran battalions	247	
Sent to Chelsea, on account of age and other infirmities	70	
Deaths, by other diseases	7	
Discharged, with pensions for blindness, being two-thirds of the total loss out of 3000 cases	20	
Under treatment	127	
Total		536'

We shall now conclude this article, which has extended to a much greater length than we intended; but the more we scrutinized Sir William Adams's statements and pretensions, the

more are we convinced of the necessity of placing them in what we consider their true point of view; and we are especially desirous of doing justice to the well-founded claims of the regular medical department of the army, who, in regard to this very disease, has deserved so well of their country; and it shall be no fault of ours, if they should be another instance of the old adage of the poet—*Sic vos non vobis.*

'We live in a world which is the daily dupe of its own credulity, where persevering falsehood is too often mistaken for truth, whose garb it assumes.' Sir W. Adams, p. 2.

III.

On Diagnosis, in Four Parts. Part I. The Phenomena of Health and Disease. Part II. The Diagnosis of the Diseases of Adults. Part III. The Diagnosis of Local Diseases. Part IV. The Diagnosis of the Diseases of Children. By MARSHALL HALL, M.D. formerly senior President of the Royal Medical Society, and Physician's Assistant, Royal Infirmary, Edinburgh. 8vo. pp. 151, 339. London, 1817.

BEFORE we proceed to the analysis of the plan of this work, we think it but justice to its author to premise, that we are aware that the subject has not been taken up lightly, and treated cursorily; for it is already five years since we ourselves advertised that the work was in preparation; and we have personal knowledge, that Diagnosis constituted the principal object of our author's pursuits, whilst he was engaged as clinical and physician's clerk in the Royal Infirmary of this city, in 1811—1814.

The first part of the work, which treats of the 'Phenomena of Health, and the Symptoms of Diseases,' is begun by some preliminary observations on diagnosis in general, on the particular objects of this part and division of the work, and on the principle of a diagnostic arrangement of diseases. The vast importance of diagnosis, as the first step in the practice of medicine, is clearly and concisely stated; the objects of attention in the study of symptoms are fully enumerated; and the practical utility of a diagnostic arrangement is satisfactorily demonstrated; and

its superiority over the more artificial and fanciful arrangements in nosology, we think, decidedly evinced. But on this last subject we shall allow our author to speak for himself.

'The object of the author has been to collect and arrange *every* difficulty in the distinction of diseases; to ascertain what difficulties in diagnosis are likely to occur, what mistakes liable to be made, and to form an arrangement best adapted to obviate them. On visiting any patient, it has been his practice to consider the two following questions,—what is the present affection? and with what other affection is it likely to be confounded? The answer to these questions constitutes the subsequent arrangement of diseases. Every doubtful case has been improved to the same purpose. In the moment of indecision, respecting the nature of any given case, a certain number of affections have suggested themselves to the mind, one of which the given case might possibly be; the difficulty of the diagnosis of these affections has been perceived, and the whole observation has led to improvements and continual additions in the general arrangement of diseases. An arrangement of this kind must prove extremely valuable to the young practitioner, inasmuch as, in every case of doubt respecting the nature of a disease, this classification will at once point out to him what it *may* be, and will thus contract the sphere of his inquiries, and direct them to some particular points, and, consequently, materially diminish the difficulties of diagnosis.

'Such an arrangement is, indeed, what every practitioner must have daily conceived in his own mind, and have daily formed for himself, as it is naturally suggested by every difficulty in ascertaining the nature and diagnosis of diseases.'—pp. 13, 14.

Similar diseases are arranged *together*, and thus the *difficulties* in their diagnosis are represented, and the *means* of their diagnosis are effectually exposed to view, as lines placed in the same plane, and near each other, display to the eye, at once their parallelism or their obliquity.

The first section of this part of the work treats of the 'Countenance in Health and Disease.' We readily acknowledge that we had, at first, some presentiment respecting this point of study, that the attempt to describe what must, in its full extent, as our author has observed, be rather *felt* than *seen*, would terminate in words loosely and vaguely put together, and scarcely admitting of any practical application. But we have been agreeably undeceived; and we are ready to agree with Dr Hall, that the old practitioner will *recognise* in this section of his work some of the sources on which he has daily, although perhaps unconsciously, founded his judgments, and from which he has drawn his conclusions respecting the nature, diagnosis, and treatment of diseases.

The second Section relates to the 'Tongue,' &c.; and comprehends a number of observations on, 1. Its moisture or dryness; 2. Its being with or without fur; 3. Its being clean or loaded; 4. Its being swollen and indented by pressure against the contiguous teeth; 5. The enlargement or disappearance of its papillæ; 6. Its colour; 7. Its mode of being protruded; 8. The internal mouth in general; 9. The taste; and, 10. The breath, as to odour or fetor. It is plain that we cannot enter into these particulars. We have enumerated them to show our readers what the author has attempted.

The third section comprises a view of the 'Attitude in Health and Disease;'—the position, and changes of position; the caution observed in moving, or the opposite state of writhing; the state of jactitation; the condition of the muscular action, or muscular debility; and the general manner of the patient. The most important feature of this, and of the other sections of this part of the work, is the constant adherence of the author to a description of the particular objects of inquiry, *in connexion with some particular and well defined case of disease.* And, indeed, we regard this as the principle on which he has been enabled to avoid those futilities and inapplicable generalities which we expected, or apprehended we should observe, in his treatment of some of the subjects of this work. All *general* observations, however, seem to have been cautiously avoided; and the author has strictly adhered to his opinion, and we may add, to our own, that every thing in such a work should be as *particular*, and as little general as possible; and we could imagine that he has even displayed a laudable timidity in this respect. From these observations it will appear, that the practitioner of medicine may dip into the subject of the Countenance and the Attitude in disease, without fear of being repelled by finding nothing but words without meaning, or conjectures or vague observations, not admitting of practical application.

Section the Fourth presents a view of the 'General Surface in Health and Disease,' and is divided into, 1. The surface in general; 2. The hands and feet in particular; and, 3. The elementary cutaneous affections.

Section the Fifth treats of the 'Functions of the Head,' and relates to the sleep, the mental faculties, the senses and sensations, and the motions, voluntary, involuntary, and mixed,—as influenced by different diseases.

The Sixth Section gives a view of the 'Functions of the Thorax in Health and Disease,' comprising the respiration and the circulation. The mode of respiration, the effects of a full inspiration, the kinds of cough and of expectoration, sneez-

ing and gaping, and the state of the voice, are noticed under the former head; and the pulse, the pulsation of the heart, and in the neck and in the epigastric region, under the latter.

The 'Functions of the Alimentary Canal' form the object of the Seventh Section; and the 'Functions of the Urinary and Uterine Systems,' that of the Eighth. But we have not room for an enumeration of the points comprehended in these sections; and we must conclude our view of the first part of this work by observing, that the Ninth and Last section comprises some useful remarks on the 'External Form' of the human body, as influenced by age, sex, and disease.

We now proceed to give our readers a view of the Second Part of the work. This treats more immediately of the diagnosis of diseases,—of which it first presents us with a diagnostic arrangement; next a full and particular enumeration of such appearances and symptoms as are most characteristic; then a view of the complications to which the affection is liable; and of those other diseases with which such complications are apt to be confounded; and, lastly, a notice of any circumstance of cause, age, sex, or habit, which may assist or suggest the diagnosis.

The First section of the Second part of the work comprises a diagnostic view of 'Fevers and Febriform Affections,' and of their complications. We can affirm, that, in this place, the idiopathic and symptomatic febrile affections are, according to the arrangement of our author, which is original, comprehensively and accurately distinguished from each other; and we cannot but notice the important object this discrimination serves in the subsequent pages of the work, in aiding the diagnosis between the complications of idiopathic fevers with affections of the head, chest, or abdomen, and idiopathic diseases of these parts attended by symptomatic fever. Here, too, we think the *practitioner* may find much that is useful and applicable in actual practice. The author has given the denomination of Febris acuta to a state of fever, often seen, but of which we have never before seen so particular an account. He has added to the fevers, properly so called, the Erethismus mercurialis, and the Delirium tremens, as febriform affections to be discriminated from the former.

The Second section treats of the febrile cutaneous affections.

The Third section relates to the 'diagnosis of the disorders of the digestive organs, and nervous affections,' in all their multiplicity and complication. This is one of the sections treated with most care, originality, and patience. It is apparently intended to form hereafter the subject of a distinct essay, which

is to be illustrated by 'representations of the complexion, tongue, tinge of surface, and of the hands;' all which are concisely and accurately described in the present work. But we cannot go further into this subject; we can only recommend it to the particular attention of our readers.

The Fourth section comprises the diagnostic arrangement, and the diagnosis of the diseases of the head,—the sudden, the acute, the chronic, and the vesaniæ. Respecting the first division, the author observes—

'In conclusion of the Diagnosis of the Sudden Affections of the Head, it may be proper to remark that this Class of Diseases, although some of them may appear incongruous, affords a decided example of the author's plan. He has supposed the Physician to be called to a patient lying in a state of insensibility,—in bed,—or in the street; in the former case it may be Apoplexy, Intoxication, the Effects of Poison, or Asphyxia; in the latter, Apoplexy, Injury of the Head, Intoxication, Syncope, Torpor from Cold, Inanition from Want, &c. A thousand difficulties suggest themselves, in considering the Diagnosis;—the cause may be concealed—thee ase may be complicated—the affections may have been consecutive! But it is useful to know the extent of the difficulties to be encountered. And it is thought that the Clinical Student will be assisted in his Diagnosis, by learning at least what the affection *may be*, however deficient the distinctions here presented to him may prove in themselves. For it is much easier to judge in *individual* cases, than to give *general* directions for their Diagnosis;—great assistance being obtained, in the former case, from ascertaining the particular cause and course of the affection, and from viewing the particular combination of symptoms, which cannot form a part of the general characters of diseases.'—p. 146.

'The diagnosis of the diseases of the thorax,' constitute the object of section the Fifth. They are divided into the insidious, the acute and painful, the affections with copious expectoration, the hæmorrhages, the affections with great dyspnœa, and the affections with disturbed circulation. The author appears to guide himself in the inartificial and practical mode of distributing his subject, and everywhere makes the sacrifice of appearance to utility. He observes—

'It is acknowledged, indeed, that the Gordian knot of the nosological arrangement is cut, rather than untied, in the Diagnostic view of diseases presented to the reader in this work. This view of the subject must have naturally occurred to every person of experience in medicine; whereas the nosological arrangement has always implied some other and more artificial principle of classification. The object of the present arrangement is merely *practical utility*; that of Noso-

logy has generally been far more imposing in its aim at a classification of a philosophical nature.' p. 17.

Section the Sixth treats of the diagnosis of the diseases of the abdomen, and is subdivided into two classes; the first of which relates to the acute diseases; and the second to the chronic disorders, and the insidious organic diseases. The latter instance of diagnosis is of the utmost importance, and has never been so distinctly and carefully made by any former author. We would here just recommend the general diagnosis at pages 227, 232, 250, and 252, to the attention of our readers; for they do not admit of abridgment, and we have not room for transcription. We also observe, that particular attention is paid to the *insidious* forms and characters of some diseases.

The diagnosis of the diseases of the lumbar and hypogastric regions, forms the object of section the Seventh; that of the tumours of the abdomen of section the Eighth; and that of the painful, paralytic, and spasmodic affections, of section the Ninth and Last.

The work is begun by some prefatory and incidental observations on the study and advancement of medical science. In relation to the more immediate object of the work, the author observes—

'Diagnosis is general and particular. The general Diagnosis comprises several important points, to which particular attention has been paid in the ensuing pages. First, the distinction between Symptoms and Diseases has been every where pointed out with all possible care; and when we consider how often the symptom has been treated for the disease, the importance of this Diagnosis becomes sufficiently manifest. The second general Diagnosis relates to the distinction between Idiopathic and Symptomatic Fevers, and may be aptly compared to the general Diagnosis just mentioned. To this point also particular attention has been paid in this work. The third general Diagnosis flows from the one last mentioned, and consists in the discrimination of Idiopathic Fever with Topical Affection, and Local Inflammation with Symptomatic Fever. The fourth general Diagnosis applies to Local Inflammations, and Local Pains not of an inflammatory nature. The fifth general Diagnosis comprises the Primary Topical Affections, and Local Affections from Disorder of the Digestive Organs. The sixth general Diagnosis, certainly one of the greatest importance, traces the distinction between Chronic Disorder of Function, and Organic Disease. The seventh general Diagnosis flows from some of the former, and traces the Transitions from Spasmodic into Inflammatory Pain, and from Disorder of Function into Organic Affection. Particular Diagnosis consists in the distinction of each particular disease from every other, and constitutes that with which alone the physician ought to be satisfied.' pp x. xi.

'The next point respecting Diagnosis to be noticed in this place, is the great importance of an Early Discrimination in Insidious or Impending Diseases.

'The last circumstance to be alluded to relative to Diagnosis, is the distinction in cases of a complicated nature.' pp. xi. xii.

The work is concluded by a set of tables of diagnosis, consisting of an horizontal range for appearances and symptoms, and a vertical column for diseases. They appear to have cost the author great labour in the execution.

The plan, and the detail in a great measure, of Dr Hall's work, are original; for, although we have other writers on diagnosis, none of them takes so comprehensive a view of the subject. The publications of Wichmann and Dreysig do not aim at being complete, but only present some good examples of the contrast of resembling disease, or contributions to diagnosis. Dr Schmalz, * indeed, has attempted to give a complete system of diagnosis; but he altogether omits the general consideration of diagnostic signs, which constitutes the first, and a valuable, part of Dr Hall's volume. On the other hand, the laborious Germans, † who write so ably of symptomatology and semiotics, treat of the signs of health and disease generally, as anamnestic, diagnostic, and prognostic, without having diagnosis especially in view, or connecting with them the diagnosis of special diseases.

In this country symptomatology and diagnostics have scarcely been before considered systematically. Our monographies of disease, indeed, and the writings of our practical authors, abound with admirable observations, applicable to this subject; and although Dr Hall has done a great deal in beginning to collect them, with the view of confirming his own experience, and supplying the want of it when deficient, a rich harvest still remains, in reaping which, his industry and judgment will find occupation for many years; as we trust that he will, by continual improvement and revisal, complete the useful undertaking he has so auspiciously begun.

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* Versuch einer medicinich-chirurgischen Diagnostik in Tabellen von D. Karl Gustav. Schmalz, Arzt und Physicus in Königsberg, 2te, vermehrte und verbesserte Auflage 206, S. folio, Dresden, 1812.

† Grüner, Sprengel, Danz, Heinroth, &c. to whom we may add the learned Frenchman Double.

IV.

An Experimental Inquiry into the Laws of the Vital Functions, with some Observations on the Nature and Treatment of Internal Diseases. By A. P. Wilson Philip, M. D. F. R. S. E. Fellow of the College of Physicians of Edinburgh, &c. 8vo. London, 1817. pp. 347.

An abstract cannot do justice to this Inquiry. It must be read. It must be studied. We have little hesitation in saying, that it is altogether a model of physiological investigation. It does not contain the result of a few hasty experiments, or the partial views of crude speculation, but it presents us with the labour of many years, devoted to one most important pursuit, and with a series of valuable conclusions, derived by strict and legitimate induction. Our readers probably recollect the praises we bestowed on the Inquiry of Le Gallois * into the Seat of Life. Dr Philip combats, and we think successfully, the general conclusions of that ingenious Frenchman, whose premature death we deplore. We are also delighted to find that Dr Philip bears testimony to the truth of the experiments which we considered so ingenious; and that Le Gallois erred only in his conclusions from not varying them sufficiently, and from generalizing too soon. In these errors, all who adopted his conclusions erred equally with himself; and we do not blush for having being hurried away by the plausibility of his reasonings, since the Institute of France set the example. The value of the experiments of Le Gallois is permanent. His conclusions have been modified by the prosecution of the subject. We shall not attempt to give a critical analysis of the difficult and interesting subjects of Dr Philip's inquiry, but prefer transcribing his own abstract of the results, as a kind of index, for the sake of reference.

'From the various experiments and observations which have been laid before the reader, it appears,

'1. That the vessels of circulation possess a power capable of supporting a certain motion of the blood independently of the heart.

'2. That the power both of the heart and vessels of circulation is independent of the brain and spinal marrow.

* Edinburgh Medical Journal, Vol. X. p. 207.

'3. That the nervous influence is capable of acting as a stimulus both to the heart and vessels of circulation.

'4. That the influence is capable of acting as a sedative both to the heart and vessels of circulation, even to such a degree as to destroy their power.

'5. That the effect of the sedative is not the result of the excess of stimulus, but, like excitement, the direct operation of the agent.

'6. That the power of the muscles of voluntary motion is independent of the nervous system, and that their relation to this system is of the same nature with that of the heart and vessels of circulation, the nervous power influencing them in no other way than other stimuli and sedatives do.

'7. That the cause of the muscles of voluntary and involuntary motion, appearing at first view essentially to differ in their nature, is their being excited by stimuli essentially different, the former being always excited by the nervous influence, the latter, though occasionally excited by this influence in all their usual functions, obeying other stimuli.

'8. That the brain and spinal marrow act, each of them, directly on the heart as well as on the muscles of voluntary motion.

'9. That the laws which regulate the effects of stimuli, applied to the brain and spinal marrow on the heart and muscles of voluntary motion, are different.

'10. That mechanical stimuli applied to the brain and spinal marrow, are better fitted to excite the muscles of voluntary motion, and chemical stimuli the heart.

'11. That neither mechanical nor chemical stimuli, applied to the brain and spinal marrow, excite the muscles of voluntary motion, unless they are applied near to the origin of their nerves, and consequently that these muscles are excited by stimuli applied to very minute parts of the above organs.

'12. That both mechanical and chemical stimuli, applied to any considerable part of the brain or spinal marrow, increase the action of the heart, which cannot be increased by any stimulus applied to a minute part of these organs.

'13. That the heart obeys a much less powerful stimulus applied to the brain and spinal marrow than the muscles of voluntary motion do.

'14. That stimuli applied to the brain and spinal marrow excite irregular action in the muscles of voluntary motion.

'15. That no stimulus applied to the brain or spinal marrow excites irregular action in the heart or vessels of circulation, nor is their action rendered irregular by sedatives, unless a blow, which crushes a considerable part of the brain or spinal marrow, be regarded as a sedative.

'16. That the excitement of the muscles of voluntary motion takes place chiefly at the moment at which the stimulus is applied to the brain and spinal marrow, while that of the heart may generally be perceived as long as the stimulus is applied.

'17. That after all stimuli applied to the brain and spinal marrow fail to excite the muscles of voluntary motion, both mechanical and chemical stimuli so applied still excite the heart.

'18. That all the foregoing differences in the effects of stimuli, applied to the brain and spinal marrow on the heart and muscles of voluntary motion, are referable to the following law—That the heart is excited by all stimuli applied to any considerable part of the brain or spinal marrow, while the muscles of voluntary motion are only excited by intense stimuli applied to certain small parts of these organs.

'19. That the function of secretion is destroyed by dividing the nerves of the secreting organs.

'20. That it may be restored, after it is thus destroyed, by the galvanic influence.

'21. That lessening the extent of the nervous system by destroying the influence of any considerable part, either of the brain or spinal marrow, deranges the secreting power.

'22. That dividing the spinal marrow does not derange the secreting power.

'23. That the vessels of secretion only convey the fluids to be operated upon by the nervous influence.

'24. That these vessels, like the vessels of circulation, are independent of, but influenced by, the nervous system.

'25. That the peristaltic motion of the stomach and intestines is independent of the nervous system.

'26. That it is capable of being influenced through it.

'27. That in the stomach of the rabbit, and probably in that of similar animals, the food, when received into the stomach, remains at rest in the central part of this organ, and unmixed with the food previously taken; and that it is changed in proportion as it approaches the surface of the stomach, in consequence of that, previously there, being moved on towards the pylorus.

'28. That the food is most mixed with the fluids of the stomach, and the greatest change is effected in it in the cardiac end of the stomach.

'29. That the food is much dryer, and of a more uniform consistence, its digestion being further advanced, in the pyloric than in the cardiac end of the stomach.

'30. That the efforts to vomit occasioned by the division of the eighth pair of nerves, arise from fresh food coming into contact with the surface of the stomach, no longer covered with its proper fluids.

'31. That the muscular power of the stomach remains after the division of the eighth pair of nerves, by which all that part of the food which has undergone the action of the gastric juice is carried into the intestine, undigested food alone remaining in the stomach.

'32. That the secreting power of the stomach is almost as much deranged by destroying a considerable part of the spinal marrow, as by dividing the eighth pair of nerves.

'38. That a similar observation applies to the secreting power of the lungs,

'34. That the stomach and lungs, like the sanguiferous system, are influenced by every part of the brain and spinal marrow,

'35. That the destruction of any considerable part of the spinal marrow lessens the temperature of the animal.

'36. That the galvanic influence occasions an evolution of caloric from arterial blood, if it be subjected to this influence as soon as it leaves the vessels.

'37. That the galvanic influence occasions no evolution of caloric from venous blood, although subjected to it as soon as the blood leaves the vessels.

'38. That there is no evolution of gaseous fluid from arterial blood on its leaving the vessels.

'39. That, if caloric be admitted to be a substance, its evolution from the blood being effected by the same means by which the secreted fluids are formed, it must be regarded as a secretion.

'40. That the division of the spinal marrow does not destroy any of the functions of either half of it (22), the paralysis of the lower part of the body, occasioned by its division, arising from that part having its communication with the principal source of sensorial power destroyed.

'41. That the ganglions are a secondary centre of nervous influence, whose nerves are as extensively distributed as those which proceed from the brain and spinal marrow.

'42. That the ganglions are the means by which the influence of every part of the brain and spinal marrow is bestowed on the parts, which we have found influenced by every part of these organs,

'43. That the influence of every part of the brain and spinal marrow is bestowed on all parts directly or indirectly necessary to the due performance of secretion, this function requiring the influence of every part of these organs (21.)

'44. That the position of the ganglions, and the distribution of their nerves, tend to confirm the view of their use afforded by the above experiments.

'45. That we have reason to believe, that the great sympathetic nerve arises from the spinal marrow.

'46. That the proof of the vessels possessing a principle of motion independent of their elasticity, which bears the same relation to the nervous system with the excitability of the heart, not only as far as respects the kind of influence which they derive from that system (43), and the way in which it is supplied to them (42), but also, as far as respects the purposes for which it seems to be bestowed on them (43), affords a strong argument for believing that this power is of the same nature with that of the heart.

'47. That the various functions of the animal body may be divided into sensorial, nervous, and muscular.

'48. That the sensorial power is not wholly confined to the

brain, nor the nervous to the spinal marrow, both powers in a greater or less degree residing in both organs.

'49. That the division of the brain into cerebrum and cerebellum seems to relate to the sensorial functions, since the muscles both of voluntary and involuntary motion appear to bear the same relation to both.

'50. That what we call death is the ceasing of the sensorial power alone, the nervous and muscular powers still continuing.

'51. That in the function of respiration, the sensorial, nervous, and muscular powers are combined.

'52. That it is owing to the ceasing of respiration, that the destruction of the sensorial power is followed by that of the nervous and muscular powers.

'53. That whatever be the cause of death, the functions cease in this order, unless the sensorial or nervous system be so impressed as instantly to destroy all the functions.' pp. 243–253.

The general conclusions arising from these facts are clearly stated by Dr Philip. A most important one is, that the power of all muscles is independent of the nervous system, and that the distinction between the voluntary and involuntary muscles consists in the nervous influence being the sole stimulus of the voluntary muscles, while it only acts occasionally on the involuntary muscles, whose function requires a more uniform excitement than could be derived from this source.

In the function of secretion, the sanguiferous system appears only to supply the fluid to be operated on by the nervous influence; and the evolution of caloric, which supports animal temperature, is also effected by the action of this influence on the blood.

Dr Philip also thinks there is good reason for believing that the nervous influence is the galvanic fluid, collected by the brain and spinal marrow, and sent along the nerves; galvanism being not only, of all artificial means of exciting the muscles, that which seems best adapted to the purpose, but capable of both forming the secreted fluids, and causing an evolution of caloric from the blood, after the nervous influence is withdrawn. We must not, however, suppose that Dr Philip has the most remote idea that galvanism is the vital principle. This opinion he has, however, thought it necessary formally to disclaim, in a paper which he has published in the 62d Number of the Annals of Philosophy. Galvanism he considers as one of the means employed in producing the phenomena of life, but totally distinct from, and having nothing in common with, the vital principle.

'Whether the living principle, electricity and magnetism, be subtle fluids added to bodies, or only a peculiar arrangement of their

constituent parts, the fact is, that they bestow on matter certain properties; and all that is essential is, that our expressions should convey this fact, and no more. Till the properties bestowed on matter by these powers are found to be the same, and surely it is impossible to conceive properties more dissimilar than those bestowed by electricity or magnetism, and the living principle, there cannot be a shadow of reason for supposing them the same. The Galvanic experiments above referred to, as far as I am capable of judging, go far to prove that Galvanism has nothing in common with the living principle, because these experiments exhibit them performing functions in the animal economy wholly of a different nature.' p. 118.

Most practitioners are apt to disregard these higher physiological investigations, as being of little or no use in the cure of disease. But this is a narrow and incorrect view of the subject. Accordingly, we find the speculations, or rather the physiological opinions of Dr Philip, have been successfully applied by him directly to the improvement of the practice of medicine. The most striking instance of this appears in the use of galvanism in asthmatic dyspnœa; and we shall conclude our account of this interesting volume, by transcribing his statement of its effects and mode of application.

'I have employed galvanism in many cases of habitual asthma, and almost uniformly with relief. The time, during which the galvanism was applied before the patient said that his breathing was easy, has varied from five minutes to a quarter of an hour. I speak of its application in as great a degree as the patient could bear without complaint. For this effect I generally found from eight to sixteen four-inch plates of zinc and copper, the fluid employed being one part of muriatic acid, and twenty of water, sufficient. Some require more than sixteen plates, and a few cannot bear so many as eight; for the sensibility of different individuals to galvanism is very different. It is curious, and not easily accounted for, that a considerable power, that perhaps of twenty-five or thirty plates, is often necessary on first applying the galvanism, in order to excite any sensation; yet after the sensation is once excited, the patient shall not perhaps, particularly at first, be able to bear more than six or eight plates. The stronger the sensation excited, the more speedy in general is the relief. I have known the breathing instantly relieved by a very strong power. I have generally made it a rule to begin with a very weak one, increasing it gradually at the patient's request, by moving one of the wires from one division of the trough to another, and moving it back again when he complained of the sensation being too strong. It is convenient for this purpose to charge with the fluid about thirty plates.

'The galvanism was applied in the following manner. Two thin plates of metal, about two or three inches in diameter, dipped in water, were applied, one to the nape of the neck, the other to the pit of

the stomach, or rather lower. The wires from the different ends of the trough were brought into contact with these plates, and, as observed above, as great a galvanic power maintained, as the patient could bear without complaint. In this way the galvanic influence was sent through the lungs, as much as possible, in the direction of their nerves. It is proper, constantly to move the wires upon the metal plates, particularly the negative wire, otherwise the cuticle is injured in the places on which they rest. The relief seemed much the same, whether the positive wire was applied to the nape of the neck, or the pit of the stomach. The negative wire generally excites the strongest sensation. Some patients thought, that the relief was most speedy, when it was applied near the pit of the stomach.

'The galvanism was discontinued as soon as the patient said that his breathing was easy. In the first cases in which I used it, I sometimes prolonged its application for a quarter of an hour, or twenty minutes, after the patient said he was perfectly relieved, in the hope of preventing the early recurrence of the dyspnœa; but I did not find that it had this effect. It is remarkable, that in several who had laboured under asthmatic breathing for from ten to twenty years, it gave relief quite as readily as in more recent cases; which proves, that the habitual difficulty of breathing, even in the most protracted cases, is not to be ascribed to any permanent change having taken place in the lungs.'—pp. 316–318.

V.

An Essay on the Chemical History and Medical Treatment of Calculous Disorders. By Alexander Marcet, M.D. F.R.S. Physician to Guy's Hospital, &c. &c. 8vo. London, 1817. pp. 181.

Dr Marcet has concisely stated the object of his work. It is to describe and illustrate, by means of accurate engravings, the characters by which the different calculi may be distinguished; to indicate the easiest analytical methods, by which their chemical natures may be ascertained, and to point out the modes of chemical treatment which afforded the best prospect of success. To prosecute this object, no man could come better qualified than Dr Marcet, who is both a practical physician and a chemist; and by none could it have been more ably fulfilled.

The first chapter treats of the different situations in which calculi are found in the urinary passages, and of the symptoms which they respectively produce; the second, of the different prevalence of urinary calculi in various districts, and hospitals,

and of the comparative frequency of the disease in different countries. The difficulty of procuring information on this last subject is, we know, attended with very great difficulty; and we trust, that the inquiry begun by Dr Marcet, may lead to the keeping, in all hospitals, of an accurate register, not only in regard to this subject, but in general of every point which may improve our statistical knowledge of disease. The only great fact which Dr Marcet seems to have established is, that calculous complaints are very rare in tropical climates.

In the third chapter, Dr Marcet treats of the different species of urinary calculi, of their external characters, and of their chemical nature and classification. Calculi have been incorrectly classed as renal, cystic, or urethral; as Dr Marcet properly observes, that the different varieties may appear in different parts of the urinary passages. He, however, describes the general appearance and external characters of those commonly found in each situation. He next sketches the chemical history of calculi; in which, after Scheele, our countryman Dr Wollaston occupies the most distinguished place. The species now ascertained to exist are—and we have affixed the names of their discoverers—

'1. The *lithic calculus*, consisting of uric or lithic acid. Scheele

'2. The *bone-earth calculus*, principally consisting of phosphat of lime. Bergman, Pearson, Wollaston.

'3. The *ammoniaco-magnesian calculus*, in which the triple phosphat obviously prevails. Wollaston.

'4. The *fusible calculus*, consisting of a mixture of the two former. Tennant, Wollaston.

'5. The *mulberry calculus*, or oxalat of lime. Wollaston.

'6. The *cystic calculus*, consisting of Dr Wollaston's cystic oxide.

'7. The *alternating calculus*, consisting of two or more different species arranged in alternate layers.

'8. The *compound calculus*, the ingredients of which are so intimately mixed, as not to be separable without chemical analysis.

'9. Calculus from the prostate gland, consisting of neutral phosphat of lime. Wollaston.

'10. Calculus of a new substance ascertained by Dr Marcet, and called by him Xanthic Oxyd.

'11. *Fibrinous calculus*, consisting of fibrine. Marcet.'

The fifth chapter treats of the comparative frequency of the different species of calculi. Dr Marcet examined the varieties in the two considerable collections of Norwich and Guy's Hospital.

	Norwich.	*Guy's.*
'Lithic calculi - -	66	22
Fusible calculi - -	49	24

		Norwich.	*Guy's.*
Mulberry calculi		41	22
Phosphat of lime		4	3
Cystic oxide		—	1
Alternating calculi		19	6
Lithic and mulberry	15		
Mulberry and triple	1		
Fusible and lithic	1		
Fusible and mulberry	2		
Compound calculi		2	7
		181	87

The other varieties are of more rare occurrence. Contrary to all expectation, Dr Marcet found, that the smallest proportion of deaths from operations, happened with the mulberry calculus, and the greatest with the alternating calculus; but, probably, size is of more importance in the event, than form or chemical nature.

The sixth chapter treats of the analysis of urinary calculi, with a view to their easy discrimination; and we are tempted to extract almost the whole of it.

'When a calculus is of a brownish colour, compact, rather hard, smooth or nearly so, and of the shape of a flattened oval, there is great probability of its being of the lithic kind. Often, however, these appearances are but imperfectly marked, and at other times they are fallacious. The blow-pipe, in most instances, will be sufficient to enable us to identify the lithic calculus. For this purpose, a fragment, not larger than a pin's head, is detached from the stone with the point of a knife, and being held by the extremity of a small and slender pair of platina tongs, is exposed to the flame of the blow-pipe. If the lithic acid be its principal ingredient, the fragment blackens, emits a smoke, having a strong and characteristic odour, and is gradually consumed, leaving a minute quantity of white ash, which is usually alkaline.

'The next feature by which lithic acid may be easily recognised, is its being readily dissolved in caustic alkali. This may be effected simply by scraping off a little of the calculus in a glass capsule or watch-glass, and pouring upon it a few drops of caustic potash. On exposing this to the heat of a lamp, the lithic matter is immediately dissolved, leaving a residue more or less considerable, according to the proportion of the other substances contained in the calculus; and by adding to this solution any acid, not excepting the carbonic, a white precipitate, consisting of pure lithic acid, is immediately formed. Lastly, if to a small particle of lithic calculus, however impure, a drop of nitric acid be added, and heat applied, the lithic acid disappears; and if the solution be evaporated to dryness, the residue assumes a beautiful pink, or carmine colour. This residue is soluble

in water, to which it imparts its peculiar colour. Such are the tests by which lithic acid can always be detected, even when in a state of great impurity. When, however, its proportion is very small, the results may be more or less dubious, and a more elaborate analysis may be required.

' The indications by which phosphat of lime, or the bone earth calculus, may be easily identified, independently of its external characters, are very simple. Before the blow-pipe it first blackens, but soon afterwards becomes perfectly white, still retaining its form, and not exhibiting any appearance of fusion, unless the most intense heat be applied, such indeed as very few persons are able to produce by the blow-pipe. This calculus, when pulverized, is readily dissolved by dilute muriatic acid; and if the excess of acid be not very considerable, the lime may be precipitated in the form of an insoluble compound, by oxalat of ammonia.

' The ammoniaco-magnesian phosphat, though scarcely ever found without an admixture of some other substance, is yet often discernible by its whiteness, and by its crystalline sparkling appearance. If, however, chemical tests be required, a few particles of this salt (whether deposited in the form of a white sand by morbid urine, or detached from a calculus) may be exposed to a gentle heat, or treated with a few drops of caustic potash, by either of which means a pungent smell of volatile alkali will be immediately disengaged. If the heat of the blow-pipe be urged, the phosphat of magnesia which remains, after the expulsion of the ammonia, becomes opaque, and is capable of undergoing an imperfect fusion. This calculus is readily soluble in dilute acids, much more so indeed than phosphat of lime; and if these solutions be treated with ammonia in excess, the triple crystals reappear.

' The fusible calculus is easily distinguished, when exposed to the flame of the blow-pipe, by the property from which it has obtained its name. It melts on the heat being moderately urged, bubbles up, and runs into a globule of a pearly appearance, and sometimes perfectly transparent. It is readily dissolved by acids, and in particular by the dilute muriatic acid; and the lime and magnesia can be precipitated in succession from these solutions by appropriate reagents. Thus if the lime be separated by oxalat of ammonia, and if ammonia be added to the clear solution, an ammoniaco-magnesian phosphat immediately appears, and subsides with its usual appearance.

' The mulberry calculus, or oxalat of lime, is often abundantly distinguishable by its external appearance; but this is by no means always the case. Its most obvious chemical character is to swell out, when exposed to heat, and to expand into a kind of white efflorescence, which, when brought into contact with paper stained with the juice of violets, and slightly moistened, turns it green; or if with turmeric, turns it red. This white alkaline substance is nothing but caustic lime deprived of its oxalic acid, this acid being readily destroyed by the application of heat, so that the flame of a spirit-lamp, without the assistance of the blow-pipe, is in most instances sufficient to pro-

duce this effect. In some cases, however, calculi of this species are more refractory, particularly those which have not the usual mulberry-shaped surface, owing to a mixture of other calculous matter, and in particular of lithic acid. This variety is apt to crackle and decrepitate when heat is applied.

'The cystic oxyd may be easily recognised by its unstratified and homogeneous structure, by its peculiar colour, and waxy appearance, and by its peculiar smell when heated; but should any other test be wanted, the great solubility of this substance, both in acids and alkalis, is a criterion by which we can scarcely be deceived.

'With regard to the compound calculi, if their different ingredients be disposed in layers, it is only necessary, in order to ascertain their nature, to examine in succession particles detached from these respective layers. But if intimately mixed, it is rather from the ambiguous results yielded by the various tests I have just pointed out, than by any positive character, that we are first led to suspect their being of a compound nature; and it is by an appropriate combination of the methods above-described, that we are enabled to ascertain their various ingredients.'

Other animal concretions form the subject of the seventh chapter, the most singular of which is the intestinal calculus of Dr Munro. Many years ago, we satisfied ourselves that this substance consisted almost entirely of woody fibres, intermixed with granules and thin layers of triple phosphate. We conceived, that they owed their origin to a lodgment of feces in a sac or pouch of the intestines, in which situation, every thing soluble was at last dissolved or absorbed, leaving only the woody fibre of the vegetables, used as food, in a state of slenderness far exceeding that of the finest wool. It is almost peculiar to Scotland. Mr Clift first conjectured that it might proceed from oats, and Dr Wollaston seems to have ascertained that it is formed from the fibres of a brush seen at one end of the oat seed, after the husk is removed. The indigestible part of certain kinds of pears, sometimes produces a concretion of an analogous nature. The changes which indigestible alimentary matter undergoes in passing through the intestinal canal are interesting, especially to the practical physician, as *strange* substances are often presented to him, under the supposition that they are the product of disease: and he is occasionally led into very absurd errors. Thus, Dr Wollaston examined certain concretions which owed their origin to cheese. The magnesian calculus is an instance arising from the abuse of a valuable medicine. In our practice we have found half digested cheese, potatoe, the large rib of cabbage-leaves, whole bramble-berries, and other substances, give rise to strange speculations.

The work is concluded with the medical treatment of calcu-

lus, or the chemical and physiological principles to be attended to in the treatment of calculous disorders. Dr Marcet estimates, with great candour, the power of medicine over these affections, and we esteem him the more for it, as it is a subject to which charlatans have almost a prescriptive right. Dr Marcet has no new and infallible mode of treatment to recommend, and boasts of no superior skill; yet we can assure our readers, that in no other work will they find so much information as to the best practice in the different varieties of this severe and intractable disease, and that they may safely trust to his guidance without the risk of being disappointed.

There are eleven instructive and well-finished plates.

VI.

The Influence of the Atmosphere, more especially the Atmosphere of the British Isles, on the Health and Functions of the Human Frame, embracing Observations on the Nature, Treatment, and Prevention of the Principal Diseases resulting from Sudden Atmospherical Transitions; and unfolding Original Views and Fundamental Principles for the Prolongation of Life, and Conservation of Health:—To which are added, Practical Researches on the Pathology, Treatment, and Prevention of Gout and Rheumatism, in all their Proteian forms. By James Johnson, M. D. 8vo. pp. 290. London, 1818.

We have very little room left, and yet we are unwilling to allow another number to be published, without noticing the work before us, and recommending it to the attention of our readers, to whom Dr Johnson is probably already well known as an intelligent observer and spirited writer. It is impossible for us to enumerate the great variety of subjects which our author has discussed, yet they are intimately connected together. In the atmospherical vicissitudes of our climate, he finds a frequent source of disease, affecting first the surface of the body, and then, by sympathy, the internal organs, particularly the lungs, alimentary canal, and liver, giving rise to pulmonic, gastric, enteritic, and hepatic complaints, of which, as well as scrofula and fever, he treats in succession.

Hygeia, or the conservation of health and prolongation of life, next engages our author's attention, and is illustrated by many excellent observations.

Half the volume is occupied with appendixes. The first is a very masterly condensation of the article *Goutte*, as drawn up for that extensive and unequal work the Dictionaire des Sciences Medicales.

The second appendix is original, and consists of practical researches on the pathology, treatment, and prevention of rheumatism; and the third and last contains an account of the use of the nitro-muriatic acid bath in bilious diseases.

As a specimen of our author's animated style, we extract the first passage that presents itself.

'The phantoms of '*debility and putrescency*,' resuscitated in the Brunonian school, and there arrayed in colours truly alarming, have held, to this day, in imaginary chains, their widely disseminated votaries on the continent of Europe; and although the more enlightened practitioners of this country reject the tenets of Brown, it is sufficiently evident that many of his most erroneous doctrines still paralyze their arms and haunt their imaginations.

'Within these few years, however, the trammels of medical authority have been broken, and a mental emancipation has led men of genius and observation to deduce *doctrines from facts*, instead of bowing in silent acquiescence to the dogmas of antiquity, and suffering themselves to be chained to the footstool of prejudice.

'To these phantoms and prejudices we owe the exclusion of the cool breath of heaven from the parched and fevered patient labouring under eruptive and other acute diseases;—to these, the rejection of purgatives in typhoid fevers;—to these, the proscription of the lancet in every febrile complaint, not unequivocally accompanied with topical inflammation! But modern experience has proved, that *cold water* may be applied with advantage to the burning surface of fever, and that, instead of laxative glysters, at long intervals, daily and repeated purgatives do not weaken but refresh the patient labouring under typhus.

'Dearly purchased experience has also shown, that in those terrific endemics, which occasionally sweep off whole ranks of our countrymen beneath the burning skies of the Indies—the rapid abstraction of blood—the cold or tepid affusion of water—the most prompt evacuations from the bowels—and the liberal administration of mercury, have snatched thousands from a premature grave, where the scholastic doctrines of debility and putrescency, with their inseparable attendants, *bark*, *wine*, and *opium*, would have precipitated them inevitably into the jaws of death!

'It is only by minutely investigating the various links in the chain of cause and effect, or, in other words, the '*ratio symptomatum*' in diseases, that we can arrive at satisfactory doctrines and successful practice; nor should this mode of proceeding be branded with the epithets theoretical or speculative. The deductions are legitimate, because they result from observation and facts; and the reasoning is practical, because it is the offspring of experience.' p. 16.

PART III.

MEDICAL INTELLIGENCE.

REPORT of DISEASES treated at the EDINBURGH NEW TOWN DISPENSARY, from 1st December 1817 to 1st March 1818.

	No. of Cases.
Febris continua	446
—— intermittens	4
—— ephemera	10
—— infantum remittens	99
—— dentitionis	34
Apoplexia	3
Hydrocephalus	7
Cephalæa et Vertigo	49
Paralysis	5
Mania	2
Epilepsia	4
Convulsio	2
Neuralgia	1
Ophthalmia et sequelæ	78
Fistula lacrymalis	1
Amaurosis	4
Otitis	1
Polypus nasi	1
Odontalgia	17
Aphthæ et ulcera faucium	7
Cynanche tonsillaris	48
—— trachealis	4
Catarrhus	196
Pneumonia	49
Pleurodyne	46
Hæmoptysis et Phthisis	32
Asthma et Dyspnœa	31
Hydrothorax	9
Palpitatio	1
Pertussis	23
Pericarditis	1
Hepatitis	10
Icterus	5

	No. of Cases.
Gastritis	1
Dyspepsia et Hypochondriasis	134
Hysteria	31
Enteritis	5
Colica et Obstipatio	39
Diarrhœa	71
Dysenteria	6
Ulceratio Intestinalis	1
Vermes	43
Tabes mesenterica	10
Hæmorrhois	7
Fistula in ano	1
Hernia	3
Hydrops generalis	12
Dysuria	7
Hæmaturia	1
Phymosis	1
Gonorrhœa	6
Inflammatio testis	7
Hydrocele	2
Hæmorrhagia uteri	7
Leucorrhœa	16
Prolapsus uteri	1
Scirrhus uteri	1
Polypus vaginæ	1
Amenorrhœa	15
Rheumatismus	78
Scrofula ossium et articulorum	8
—— glandularum	18
Exostosis	1
Necrosis	1

	No. of Cases.
Syphilis et pseudo-syphilis	8
Phlegmon	34
Mastodynia	16
Paronychia	8
Erysipelas et erythema	10
Variola	19
Varicella	3
Scarlatina	15
Strophulus	2
Lichen	1
Prurigo	4
Ptyriasis	1
Scorbutus	1
Pemphigus	1
Lepra	5

	No. of Cases.
Psoriasis	6
Ecthyma	5
Impetigo	11
Purpura	4
Porrigo	47
Scabies	90
Herpes	22
Tumores	20
Ulcus	32
Ustiq	19
Vulnus	28
Contusio et subluxatio	71
Luxatio	3
Fractura	5

This has been an open winter, unattended with much severity or long duration of frosty weather; but, at the same time, very variable and stormy, from the occasional prevalence of higher winds than are recollected to have occurred in the memory of the oldest inhabitants.

On referring to the numbers of the different diseases treated during the last quarter, continued fever will still be found to hold the most prominent place, and to have very considerably increased during that period. The contagious nature of the fever has been evident in almost all the cases we have seen, most of them having been traced to the exposure to infection; and others, where the source of the infection could not be ascertained, demonstrating their contagious property by communicating the disease to those exposed to its influence. We have little to add to our observations on the fever contained in the preceding Dispensary Reports. The character of the fever has remained with little variety, though its symptoms, during the last quarter, seem to have become of greater severity, and of longer duration, and the proportion of fatal cases to have considerably increased. It is impossible, however, for us to judge, from the records of the Dispensary, of the degree of the mortality which has taken place, as a considerable proportion of the adults most severely affected with this fever have been removed as speedily as possible to the Infirmary.

By an average taken from a list of nearly 400 of the patients admitted on the books of the Dispensary, it appears that considerably more than a third have been children under 15 years of age; and that, of the adults, the number of females affected has exceeded that of the males, though not in so great a degree as

has been observed at the Fever Institutions of Newcastle and Dublin. We have found the proportion of women to men to have been rather more than as 13 to 10.

We have been by no means assured that we have been able, in any instance, to cut short the fever at its commencement, though some who laboured under symptoms of incipient fever, and had been exposed to the contagion, were restored to health by the use of emetics and purgatives, sometimes accompanied by blood-letting. But we have often found it impossible to distinguish the symptoms of this fever, at its commencement, from those of ephemeral fever or catarrh: and, in many instances, the disease has proceeded in its regular course, notwithstanding the use of the most active means, on its very first appearance. We have, however, seen very marked alterations of many of its urgent symptoms produced by the use of emetics and blood-letting in the early stages. The latter remedy has been generally called for by the increased determination of blood either to the head, or to some other important organ, and has also been employed with the happiest effects in relieving the feelings of pungent heat, distention and irritation, which are so common in the first stage of this fever, and we have even employed it with great advantage when the fever had advanced to the eighth or tenth day of its course. We have found it also a good general rule, at the commencement of a distinct attack of this fever, to have the head shaved, both as facilitating topical bleeding and the use of cold, and also as rendering the application of blisters, when subsequently necessary, less troublesome to an irritable or delirious patient.

These remedies, with purgatives and cooling drinks, have formed our chief resource during continuance of fever, to which opiates have been occasionally added, in the latter stages, with great relief to the patient. We have found nothing so effectual in guarding against relapse, as the long continued quiescent state of the patient, and the total abstinence from animal food, in any shape, until the tongue has become clean, and the appetite keen. We have seen many examples, both of temporary aggravations, and of permanent, and sometimes fatal relapses, produced by a deviation from these rules.

In the Midwifery department, there have been 100 applications and 79 deliveries. Of these the natural labours were 70, preternatural 4, instrumental 1, complex 1, premature 1, and abortions 2.

The preternatural labours were all presentations of the feet; and, as both feet presented, it was only necessary to accomplish the passage of the child through the pelvis in the manner in

which it would occupy the least possible space, by bringing the belly, breast, and face along the sacro-iliac junction of one or other side; a method, the advantages of which are so obvious, that we were astonished that it was not taken notice of till the year 1794, when it was described by Dr De Coutto, in his inaugural Dissertation, published here, and again in 1795, by Dr Hamilton, the present Professor of Midwifery, in his select cases.

During this quarter there has occurred one case only of instrumental delivery. The poor woman had been attended by a midwife for two days and nights before application was made to the Dispensary. No untoward symptom had taken place, except considerable prostration of strength; but, upon careful examination, it was found that there was a deficiency of space in the pelvis, chiefly in its cavity and outlet. Considering these circumstances, and the almost certainty of the death of the child, it was conceived right to open the head, to evacuate the brain, and to extract by means of the crotchet, which was easily and speedily completed. Our opinion with respect to the death of the child was found to have been correct. The woman had a good recovery.

The case of complex labour which occurred, was one in which uterine hæmorrhage took place very soon after the extraction of the placenta. The hand was instantly carried into the cavity of the uterus, and, by repeatedly pressing the inner surface of that organ, it was soon forced into a state of action sufficiently strong to propel the hand out of its cavity, and to put a stop to the further loss of blood. For the purpose of supporting the strength, we had recourse to the use of wine, a practice which we conceive preferable to the exhibition of opiates,

In the course of this quarter, the women have generally had good recoveries. There was, however, one rare and interesting disease occurred after delivery, viz. phrenitis. This alarming disease appeared evidently to be the consequence of cold, and a too liberal use of distilled and fermented liquors. It began to manifest itself on the third day after delivery; the pulse became full, quick, and hard, about 120 in a minute; pain in the head came on, which gradually increased to such a degree as to render her insensible to external impressions for a time, and she was occasionally perfectly delirious. She complained much of light and noise; the pupils were occasionally dilated, at other times they were natural. Tinnitus aurium was such as to be compared by her during raving, to the noise of a *spinning-wheel.* The peculiar wildness in the eyes which is found to be so characteristic of this complaint, was well marked. There was no doubt

existed with respect to the nature of the disease. We, therefore, had immediate recourse to venesection; the first bleeding was thirty ounces, which had some effect upon the pulse, but none upon the other symptoms; the head was shaved and bathed with cold water and vinegar; a very large blister was afterwards applied. In three hours after the first bleeding, it was found expedient to detract more blood, and forty ounces were therefore ordered to be instantly taken from the arm. This bleeding had the desired effect in rendering the pulse softer, smaller, and less frequent. The other symptoms seemed to be relieved also, for she became much quieter. Her bowels were freely opened with various laxative medicines; her pulse was watched, and, whenever it increased in force or frequency, venesection was had recourse to, and the blood allowed to flow till it was again brought down. She afterwards complained of great thirst, so much so, that she often exclaimed that 'her tongue would become fixed to the upper part of her mouth.' By having recourse to blood-letting, when we supposed it necessary from the state of the pulse; by repeating the blister, and keeping the head cool with vinegar and cold water, when the blister part would permit; and by keeping a very open state of the bowels, this individual is now so well as to be enabled to take charge of her infant; and there is every appearance that she will be eventually able to suckle her child.

Extracts from Letters of a Physician in London to Dr Duncan, Professor of Physic, &c.

1. *Instance to show the inconsiderable manifest effects of Subcarbonate of Iron.*

A GREAT deal has been written, and it is commonly believed, that this article produces very great effects on the circulating system; yet, in scores of cases, I have seen it administered in very large doses without being able to perceive any such effects. As an instance,—A man labouring under great general debility, wasting of the flesh, languor, often faintness, restless nights, pains, seemingly from weakness, frequent pulse, viz. from 100 to 120 in each minute; flatulency at the stomach; moderate appetite for food, but no distinct hectic symptoms;—these constitutional symptoms attended superficial broad sores on several parts of the surface of the body, but not specially glandular parts; which sores were called *Scrofulous*.

One drachm of subcarbonate of iron, with eight grains of cinnamon and ten grains of hard sugar, were taken thrice a day, for nineteen days; of course, during this period, 57 drachms of

this preparation were swallowed. The sores healed or ceased to discharge, but there was no improvement in the strength. The circulation did not appear to be altered. The stools were, as is usual during the use of this medicine, blackened very evidently. The appetite for food was neither increased nor diminished.

In a case of expectoration of pus and mucus intimately mingled, one drachm of subcarbonate of iron was taken thrice a day for several weeks, without any increase of the circulation, or other observable effect.

2. *Diabetes Mellitus.*

In three cases of this disease under my observation, in immediate succession, the patients died of tuberculous phthisis, with vomicæ; and except dilatation of the pelvis of the kidneys, and of the ureters, there was no visible disease of the urinary organs. The pulmonary affection being so long subsequent to the diabetes, it cannot be said that this disease was excited by the former; but that the diabetes excites the phthisis, must be determined by a greater number of instances than we possess at present. Experience, however, seems to have now proved, that the diabetes is *not* any evident organic disease of the secretory organs of urine; but that it may reasonably be referred to failure of the organs to produce blood and living fibrous matter from sugar. The sugar not being thus employed, it appears in the urine, and the animal economy, being unduly supplied with repair, sinks fatally by debility, from such disease, or by exciting phthisis.

3. *Solecisms.*

How many years further must the correct taste of physicians be offended by the use of the terms *morbid anatomy*, *morbid poisons*, &c.? What is the meaning of these terms? No doubt they must signify what is meant by the words *diseased anatomy*; for surely *morbid* and *diseased* have the same import. The words *morbid poisons*, in course, have the same signification as the terms *diseased poisons*. In these instances, the notions intended to be expressed, would be justly communicated by saying, *anatomy of diseased parts*; *anatomy of diseased lungs*, *eye*, &c.; *poisons which occasion diseases*, or *morbific poisons*. These improprieties did not escape the acuteness of a good philologist, the late Dr Beddoes, and it was reasonable to have expected that the disuse of them would immediately have taken place on their exposure.

4. *Question in what composition Life consists?*

If we are left unsatisfied as to the nature of living matter af-

ter the controversies at one of the London Theatres the past year, the ingenious display of physiological erudition worthily commanded respectful attention, and must prove beneficial by stirring to inquiry and contemplation. The change from the lively to the lifeless state, has been asserted to be owing to the disappearance of a most subtile weightless matter; by some called æther, by others electric matter,—that it is '*the matter of life.*' It is, however, fully determined, that the superinduction of such subtile substances as electric matter, does not animate matter, nor the abstraction of them produce death. But if this were the fact, it would not prove that they were the *materia vitæ*, even if they be essential constituent elements; for on the same ground, charcoal, or hydrogen, or nitrogen, or oxygen, or light, or caloric, being constituent parts of living matter, may be entitled to be called the *materia vitæ;* the separation of any one of them producing death, but the restoration does not reproduce life. It is conceivable that, when given, lifeless matter is rendered alive, the change must be either by the addition or subtraction of something, or by a new arrangement of the given elementary parts; but which of these changes is effected, is utterly unknown. Hence some of the peculiar properties of living matter are known, but there can be no just notion entertained of the nature of life, nor of the nature of the change when disanimation takes place.

5. *Poisoning by Colchicum.*

One ounce and a half of vinous tincture of colchicum, the substitute for the *eau medicinale*, was, by mistake, given one evening to a feeble man, æt. 56, labouring under chronic rheumatism, at a public institution, in October last. No complaint was uttered for at least one hour after this accident; but then he became sick—next retching came on, with acute pains referred to the stomach—to which vomiting and purging presently supervened. This state continued the whole succeeding night and a great part of the day following, when the alvine evacuations ceased, but the most distressing nausea continued, with retching frequently. The stools were, in the course of the night, often involuntary, but not bloody. Excessive thirst came on the day after the accident, and continued till death, with severe pains of the stomach and bowels, which occasioned fomentations to be employed. In the evening the patient seemed nearly exhausted; delirium appeared; the pulse could scarcely be perceived; he lived, however, through the second night, but died the morning following. On dissection there were no appearances of inflammation of the bowels, but redness of the stomach.

6. *The fact questioned, that Nitrate of Silver, taken internally, produces blackness or a purple colour of the Skin.*

THIS asserted effect of nitrate of silver is, by some of the highest authorities, utterly unbelieved; by others it is much doubted; while, by other respectable physicians, the asserted fact is admitted, and even confirmed by experience. I confess, I suspect a fallacy in the testimonies for the fact, on the principle of reasoning; but it is illogical for such a principle to outweigh positive evidence, and to oppose, conclusively, negative to positive cases;—one of the latter should outweigh a score of the former, unless the source of the fallacy can be manifested. I have known a person, about 20 years of age, labouring under epilepsy, as well as some disease of the intestines, of a doubtful nature, take the following doses of nitrate of silver.

July 1st to the 21st, two grains thrice a day. July 21st to August 4th, three grains thrice a day. August 4th to the 25th, five grains thrice a day.

It appears, that 187 grains of nitrate of silver were taken in the course of 56 days. *No effect was produced on the skin.* The fits returned less frequently. The medicine sometimes excited purging, and, at last, considerable griping, on which account it was omitted. In addition, I state, that, in several instances, the nitrate of silver has been exhibited in large doses, for a considerable time in a public institution, by several physicians, under my observation, without changing the colour of the skin, excepting that of some of the fingers, a few patches on the arms, or other parts, evidently from the preparation accidentally coming in contact.

REPORT of Cases of Gonorrhœa in the Hospital of the Castle of Edinburgh, conducted under the care of Messrs JOHNSTON *and* BARTLETT, *in the Hospital of the 88th Regiment.*

Fifty-four Cases of Gonorrhœa have been Discharged Cured, from the 25th June to 24th December 1817.

There were treated by Injection (20 grs. of Argent. Nitr. dissolved in ℥i of plain boiled water) Twenty, of which

One	was	discharged	cured	in	3 Days.	
One	—	—	—		5 Ditto.	
One	—	—	—		6 Ditto.	
Two	—	—	—		10 Ditto.	
Four	—	—	—		15 Ditto.	
Four	—	—	—		17 Ditto.	Average 17¼ days.
Four	—	—	—		20 Ditto.	
One	—	—	—		25 Ditto.	
One	—	—	—		28 Ditto.	
One	—	—	—		42 Ditto.	

There were treated by Rest and Abstinence Fifteen, of which

Three	were discharged cured in			3 Days.	Average 8½
Two	—	—	—	5 Ditto.	
Four	—	—	—	7 Ditto.	
Four	—	—	—	10 Ditto.	
One	—	—	—	18 Ditto.	
One	—	—	—	23 Ditto.	

There were treated by Internal Medicines Nineteen, of which

By the Piper Cubeba.	*By Capsicum.*	*By Camphor.*
Two in 4 Days.	Four in 8 Days.	One in 5 Days.
Two in 5 Days.	Two in 12 Days.	One in 8 Days.
Four in 6 Days.	Two in 24 Days.	One in 14 Days.
Average 5½	13½	9 days.

Dr William Brown has been engaged for some years in preparing an Index to British Medical Literature; he has already collected references to the information contained in the Works of several hundred Authors; and hopes, if health permits, to accomplish the Work in a moderate time.

Mr Thomas Bell, F. L. S. will commence his Lectures on the Structure and Diseases of the Teeth, &c. at Guy's Hospital, on Friday the 9th of January, at half after Five o'clock. Tickets may be obtained by applying to Mr Stocker at the Hospital, or to Mr Bell, 17, Fenchurch Street.

Mr Samuel Young has now in the Press Minutes of Cases of Cancer, Part Second; being Further Reports on the successful treatment of Cancer by his new method by Pressure, which will shortly appear.

With these Reports the Nature of the Disease, as well as the method of the Practice, will be enlarged upon.

In the Press, An Inquiry respecting some Diseases of the Serous Membranes of the Abdomen and Thorax; together with Observations Illustrative of Diseases of the Mucous Surface of the Alimentary Canal. With five Engravings. By John Baron, M. D., Member, and formerly President, of the Royal Medical Society of Edinburgh, Member of the Medico-Chirurgical Society, London, and Physician to the Infirmary at Gloucester.

TO CORRESPONDENTS.

We have received Communications from Mr Valentine, Mr Rumsey, and Mr Kane. Dr Muter of Battle, Sussex, requests us to refer our readers to pages 15, 46, 58, of his Practical Observations on Artificial Pupil, published in 1818, as establishing his priority to an improvement in extracting cataract, claimed by Sir W. Adams in his late publication on Cataract. Juvenis is informed that the time of attendance at the London Hospitals is not allowed to the candidate for M. D. at Edinburgh.

For Review we have received Dr Bancroft's Sequel to an Essay on the Yellow Fever. Surgical Essays by Astley Cooper, Esq. and B. Travers, Esq. Dr Jackson's Sketch of the History and Cure of Febrile Diseases. Mr Hennen's Observations on Military Surgery, and the Arrangement of Hospitals; and Mr Blackadder on Phagedæna Gangraenosa.

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PART I.

ORIGINAL COMMUNICATIONS.

I.

Observations on Chronic Inflammation of the Brain and its Membranes. By JOHN ABERCROMBIE, M. D. Fellow of the Royal College of Surgeons of Edinburgh.

THE most common diseases are the most important. Rare and singular affections may excite curiosity, but the real improvement of medical science will be best promoted by a faithful record of facts, calculated to illustrate those diseases which excite our daily interest by their frequency and their danger. Among these may justly be reckoned the affections of the Brain. In their varied forms, they meet us at every age, and in every rank; they often set at defiance our most powerful remedies; and, after being rapidly fatal, they frequently leave in the important organ affected, so slight and imperfect traces of their nature, that we are only left to contemplate the fallacy of our doctrines, and the inefficiency of our most powerful remedies.

Diseases of the brain may be divided into three classes; the inflammatory, the apoplectic, and the organic. Active inflammation of the brain is in this country so uncommon, that some have doubted whether it really exists as an idiopathic disease. For this reason, I confine my observations to Chronic Inflamma-

tion. I include under this term all those affections of the brain, which, beginning with symptoms of an inflammatory nature, terminate either by suppuration or effusion; and I do not comprehend serous apoplexy, which, beginning with apoplectic symptoms, belongs to another branch of the subject. Those affections which I include under chronic inflammation, appear under various degrees of activity. Some of them are evidently examples of the pure scrofulous inflammation, while others approach to the characters of acute phrenitis, and on this account there may be some objection to the term. But as they pass into one another by almost insensible gradations, and are intimately allied in their symptoms and their terminations, and as none of them exhibit all the characters laid down by systematic writers as those of Phrenitis, it appears to me, that it will simplify the subject, if we consider them all under the general term Chronic Inflammation.

The reasons will appear in the sequel, which lead to believe, that the varied forms in which we meet with this affection are not different diseases, but different terminations of the same disease.

Sect. I. Symptoms of Chronic Inflammation of the Brain.

When we attend to the symptoms of chronic inflammation of the brain, we find them assuming various forms, which I think may be referred to four classes.

I. The first form of the disease most commonly affects children, but may also appear in adults. It is usually preceded for a day or two by languor and peevishness; these are followed by an accession of fever, which is sometimes ushered in by severe shivering. The patient is oppressed, and unwilling to be disturbed, and complains of severe pain in some part of the head, with flushing of the face, and impatience of light. In many cases there is frequent vomiting, which continues for the first day or two; in other cases, the vomiting is absent. The pain is felt in various parts of the head; frequently it extends along the neck, and even to the shoulders; and sometimes pain is complained of in the arms, and other parts of the body. The pupil is usually contracted; the eye morbidly sensible, and sometimes suffused; the tongue is generally white, but moist, sometimes quite clean; the sleep is disturbed by starting and frightful dreams; and frequently during sleep there is violent grinding of the teeth. The bowels are generally obstinate, but frequently they are natural; and I have seen the disease, through its whole course, attended by spontaneous diarrhœa. After some days, slight delirium begins to appear, at first transient, perhaps only

observed during the night, or upon first awaking out of sleep; or, in some cases, the patient lies in a dosing state, and talking incoherently, but out of which he can be roused, so as to talk sensibly. In other cases, instead of delirium, there occurs a peculiar forgetfulness, the patient using one word instead of another, misnaming persons and things, mistaking the day, or the time of the day, or showing in some similar manner a confusion of thought. Sometimes he is sensible of it, and appears anxious to correct the mistakes he has made. These symptoms are followed by a tendency to sleep; and this soon passes into coma. While these changes are going on, the pulse, which was at first frequent, usually falls to the natural standard, or below it; the pain becomes less violent; the eye loses its sensibility, becoming dull and vacant, often with squinting and double vision, and these are often succeeded by blindness and dilated pupil, even before the patient falls into perfect coma. The pulse having continued slow for some time, usually a day or two, sometimes but a few hours, begins to rise again, and rises to extreme frequency: it has been counted as high as 200 in the minute. It is through the whole course of the disease extremely unequal in frequency, varying perhaps every minute, or every time that it is counted. This remarkable inequality is not observed in other febrile diseases, except from some temporary cause, and is therefore a symptom which deserves much attention. The patient is now in a state of perfect coma, sometimes accompanied by paralysis of some of the limbs, sometimes by convulsive affections; and, after he has continued in this state for a few days, the disease is fatal. The duration of the complaint is extremely various; it is sometimes drawn out to three weeks, and sometimes, especially in young children, it is fatal in five or six days. At some period of the disease, there is generally a remarkable remission of all the symptoms, which gives sanguine, but deceitful hopes of recovery: it usually occurs, as the pulse is falling in frequency, or when it is beginning to rise after the slowness, and is the prelude to the coma. In some cases the slowness of the pulse does not occur, but it continues through the whole course of the disease of nearly uniform frequency.

In young children, who cannot describe their feelings, this form of the disease is characterized by fever, flushing, restlessness, and screaming, often with vomiting; these symptoms are succeeded in a few days by stupor and squinting, the pulse coming down as the stupor appears. This falling of the pulse, while the child continues in a state of great oppression, approaching to coma, is often the first symptom that points out the character of the disease.

II. The second form I have observed most commonly in young persons towards the age of puberty, and upwards. It begins like a slight feverish disorder, and for a considerable time excites no alarm. There is slight headach, general uneasiness of the limbs, disturbed sleep, and impaired appetite; the tongue is foul, and the pulse slightly frequent, probably from 96 to 100. After a few days, the complaint appears to be going off; at our next visit, we are disappointed to find the patient again complaining, perhaps as much as at first. More active practice is then employed, and there is again appearance of amendment. The tongue perhaps becomes clean; there is some appetite, and better sleep, but there is still some complaint of headach, which varies much in degree from one day to another, never severe, and never quite gone: the pulse continues a little frequent. Amid these remissions and aggravations, eight or ten days may pass before the disease has assumed any decided character. It is not perhaps before the sixth or seventh day that even an attentive observer begins to remark, that the degree of headach, though not severe, is greater, and more constant, than corresponds with the general symptoms of fever; that the tongue is becoming clean, the appetite improving, and the pulse coming down, while the headach continues, with an unwillingness to be disturbed, and a degree of oppression, that is not accounted for by the degree of fever. In this way, the complaint may go on for several days more, till perhaps about the twelfth or fourteenth day, the pulse suddenly falls to the natural standard, or below it, while the headach is increased, with a tendency to stupor. This instantly marks a head affection of the most dangerous character. The patient now lies for several days in a state of considerable stupor, sometimes with convulsion, often with squinting, and double vision. The pulse then begins to rise again; and about this time there is frequently a deceitful interval of apparent amendment; the stupor is lessened, the patient appears easy and intelligent: sometimes the squinting goes off, and the eye appears natural; but he soon relapses into perfect coma, and dies in three or four days. The duration of the complaint is uncertain; it may be drawn out to five or six weeks, or it may be fatal in two or three. When this form of the disease attacks infants, they are first observed to be languid and oppressed, with bad appetite, and disturbed sleep. There is often a disordered state of the bowels, and to this cause the symptoms are ascribed. There is no urgent symptom, and no alarm is excited till, after eight or ten days, the pulse is found at 70 or 60, the pupil dilated, the eye fixed and vacant, and the child oppressed, tending to stupor. These symptoms are soon followed by coma, with squinting, and in a few days by death.

III. The third form of the disease I have usually observed in adults It begins with violent headach, without fever. The patient is found in bed, lying oppressed, and unwilling to be disturbed, or tossing about from the violence of the pain. The pulse is about the natural standard, or below it, frequently about 60. The face is in some cases flushed, in others rather pale. In some cases the eye is natural; in others, there is impatience of light, with contracted pupil. The pain is usually very acute, and deep-seated, and is referred to various parts of the head; frequently it seems to shoot from temple to temple—and sometimes it is referred to the ear. There is a look of much oppression, and in some cases vomiting. Sometimes delirium appears at an early period, varying in degree from day to day, until, after six or seven days, it passes into fatal coma, the pulse having continued through the whole course of the disease from 70 to 80. In other cases, the pulse is at first about the natural standard, afterwards it falls to 60 or 50, and at last rises to 120 or 130. In some cases, the vision is not affected; in others squinting, and double vision occur; and sometimes these symptoms, after continuing a day or two, disappear, not to return; the disease, notwithstanding, going on to a fatal termination. There is in every case more or less delirium, but often slight and transient. Sometimes the patient lies in a dosing state, with incoherent muttering, but can be roused to talk sensibly. This condition, when not accompanied by fever, is always characteristic of a dangerous affection of the head. There is frequently observed, that peculiar forgetfulness, and confusion of thought, which I have already mentioned, and which I think is different from any thing that occurs in continued fever. Sometimes the speech is affected; and this may be either difficulty of articulation, or a hesitation, from the patient not being able to recollect the word which he meant to make use of. There is generally towards the end more or less coma; in some cases, it continues three or four days; in others not above twelve hours; and sometimes the disease is fatal without perfect coma,—the patient being able to answer questions distinctly, a very short time before his death.

IV. In another and very frequent form of the disease, the first symptom that excites alarm is a sudden and violent attack of convulsion. This, in some cases, occurs without any previous illness; in others, it is preceded by slight complaints, which had attracted little attention. In one case, which will be described, it was preceded by frequent vomiting, which had continued a fortnight; in another, by headach for several days. The convulsion is generally long and severe. In some cases, it is fol-

lowed immediately by coma, which in a few days is fatal. In other cases, the convulsion recurs frequently at short intervals, the patient in the intervals complaining of headach, and, after twelve or twenty-four hours, passes into coma. Sometimes, after the coma has continued a considerable time, perhaps twelve hours, there is complete recovery from it, and for several days the patient appears to be in the most favourable state, when, without any warning, the convulsion returns, and terminates in fatal coma. In some cases, the convulsion is confined to one side of the body, or to one extremity, and is usually followed by paralysis of the part affected, the disease in the end passing into coma.

Much observation is required to put us fully on our guard against the deceitful appearances of amendment that take place in all the forms of this disease. Even in those which have assumed the most formidable aspect, every alarming symptom may subside. The pulse perhaps continues frequent, but it also is coming down: at our successive visits, we find it falling regularly, and we are disposed to hope that a few days will bring the case to a favourable termination. During this deceitful interval, which may continue several days, I have known a parent tell the medical attendant, that his farther visits were unnecessary; and I have known a physician take his leave, considering his patient as convalescent. As the pulse falls, the patient is disposed to sleep—this is perhaps considered as favourable;—it falls to the natural standard;—"he sleeps almost constantly"—and, in another day, this sleep terminates in coma. The pulse then begins to rise again—rises to extreme frequency; and in a few days more the patient dies. All this may go on with little or no complaint of the head, and without any symptom that will lead a superficial observer to suspect danger, till he finds his patient glide into coma, at the very time when he expects recovery; for the period when the pulse falls to the natural standard, is the time when the coma becomes evident, and the situation of the patient probably hopeless. Whenever, therefore, at any period of a febrile disorder, there have been remarkable symptoms in the head, such as violent headach, with vomiting, and impatience of light, stupor, convulsive affections, or affections of the sight;—though these symptoms have entirely subsided, and the complaint again has assumed the appearance of simple fever, we must not consider the danger as over, but must be on our guard against a period of danger that is still before us. An attentive observer may generally remark, in such cases, something which leads him to suspect that the appearance of amendment is deceitful. Sometimes there is a dilated state of the pupil, giving to the eye a peculiar expression; sometimes

a remarkable tendency to sleep: frequently something unusual may be observed in the patient's manner, such as fretfulness and querulousness, which are not natural to him; a quick and hurried way of speaking, or, on the contrary, a remarkable slowness of speech; difficult articulation, or a peculiar confusion of thought and forgetfulness on particular subjects; but it cannot be too strongly impressed upon the younger part of the profession, that cases occur, in which all these symptoms are wanting, and in which the patient appears for several days to be in the most favourable way of recovery, while, in fact, his disease is advancing rapidly to a fatal termination.

Chronic inflammation of the brain is not always an idiopathic disease. It often takes place in the course of other diseases, —the most common of which are continued fever, scarlatina, measles, pneumonia, phthisis, and diseases of the kidneys. It may be useful, therefore, to keep in view those symptoms which, in the course of any disease, indicate a tendency to this dangerous affection of the brain. They are chiefly the following. In the *head*, violent headach, with throbbing, giddiness, tinnitus, sense of weight and fulness, stupor, a great propensity to sleep;—in the *eye*, impatience of light, unusual contraction or dilatation of the pupil, blindness, double vision, squinting, distortion of the eyes outwards, paralysis of the muscles of the eyelids, producing, according to the muscle that is affected, either a shut eye, or a gaping eye,—transient attacks of blindness, or double vision,—objects seen that do not exist, a long-sighted person suddenly recovering distinct vision;—in the *ear*, transient attacks of deafness, great noise in the ear, unusual acuteness of hearing;—in the *speech*, indistinct or difficult articulation, unusual quickness of speech, or unusual slowness;—in the *pulse*, slowness, and remarkable variations in frequency;—in the *mind*, high delirium, transient fits of incoherence, peculiar confusion of thought and forgetfulness on particular topics;—in the *muscles*, paralytic and convulsive affections, sometimes confined to one limb, or part of a limb;—in the *urine*, there frequently occurs a remarkable diminution of the secretion, sometimes nearly amounting to suspension of it; and, connected with this diminution, there is often a frequent desire to pass urine, occasioned probably by an increased acrimony, as the quantity diminishes. Of as great importance as any particular symptom, is attention to the correspondence of the symptoms. Thus, the peculiar oppression which accompanies a high degree of fever, is familiar to every one, and is not reckoned an unfavourable symptom; —the same degree of oppression occurring without fever, or with very slight fever, would indicate a head affection of the

most dangerous character. In the same manner, a degree of headach and of delirium, which, accompanying a high degree of fever, would be considered as symptomatic; accompanying slight fever, would indicate a dangerous affection of the brain.

The TERMINATIONS of chronic inflammation of the brain may be referred to the following heads.

1. The disease may be fatal in the inflammatory stage.

2. *Serous effusion.* This may take place either in the ventricles or on the surface. When it is in the ventricles, it generally is found in all of them, owing to their free communication with each other. On the surface, it is generally between the pia mater and the arachnoid membrane, elevating the latter, so as, from its extreme tenuity, to impart to the effusion a gelatinous appearance: it may also occur between the arachnoid membrane and the dura mater, and this is probably the source of the fluid which is often found in the base of the cranium, after the brain is removed. There is reason to suppose, that, in some cases, it is also formed between the dura mater and the bone, and that this may be the source of the fluid which often escapes in considerable quantity while the cranium is opened.

3. *Suppuration.* This also occurs in various situations.—Sometimes an extensive portion of the brain, perhaps nearly a whole hemisphere, is found broken down into a soft corrupted mass, in which soft cerebral substance is mixed with purulent matter. In other cases, the pus is in a circumscribed abscess, lined by a sac of coagulable lymph. Sometimes it is found in the ventricles, and frequently upon the surface betwixt the membranes. Abscess of the cerebellum is a frequent appearance; and an example will be given of abscess in the medulla oblongata.

4. *A peculiar destruction or disorganization of the central parts of the brain,*—the fornix, septum lucidum, and the white medullary matter which lines the ventricles. This I consider as an appearance of very great importance, and one which, perhaps, has been too little attended to. It consists of those parts being broken down into a white soft pulpy mass, retaining their natural colour, but losing their figure and consistence, so that the fornix cannot be raised, and the septum lucidum is found perforated by a large ragged opening. This appearance I have generally observed in those cases in which there has been severe and deep-seated pain. It is often combined with the deposition of coagulable lymph in the immediate vicinity of the parts affected, as, on the upper surface of the cerebellum, it is often combined with suppuration in other parts of the brain,—very often with serous effusion in the ventricles; and I think there is

no reason to doubt that it is the termination of inflammation of these central parts, probably a modification of suppuration, and deriving its peculiar character from their particular structure. I see no other principle on which we can explain it, except we suppose it to be produced by the distention of parts which arises from the effusion; and, that this is not the source of it, appears from this fact, that it is met with in cases in which there is no effusion.

5. *Deposition of coagulable lymph.* This may either appear, forming an adventitious membrane on the surface of the pia mater, or in a soft and gelatinous state in various parts, especially about the medulla oblongata, which is sometimes found imbedded in it.

6. Thickening of the membranes, contraction of the sinuses, caries of the bones, and other affections of the external parts, which will be more particularly referred to in the sequel.

In the pathology of this affection, too much attention has perhaps been directed to the serous effusion, or hydrocephalus, as if this alone constituted the disease. This effusion is probably to be considered as one of the many terminations of chronic inflammation of the brain. Some of the other terminations are scarcely less frequent, particularly that peculiar destruction of the central parts to which I have alluded, and with which the effusion is found to be combined, in a very great proportion of the ordinary cases of hydrocephalus: Other cases, in which the symptoms closely resemble those of hydrocephalus, will be found to terminate by extensive undefined suppuration, or by this, combined with effusion, or with the destruction of the central parts. In fact, we do not often meet with any one of the terminations uncombined; and it is very difficult to anticipate from the symptoms, in what manner the disease is to terminate, or has terminated in a particular case. Serous effusion, uncombined with any other morbid appearance, I have generally observed in that which I have described as the second form of the disease, in which the symptoms are very slow and insidious in their progress, and at no period exhibit much activity. In those cases in which the pain is more severe, and all the symptoms more acute and more violent, I have commonly found either effusion combined with the destruction of the central parts, or undefined suppuration. In that which I have described as the fourth form of the disease, I have commonly observed either the encysted abscess, or the deposition of an adventitious membrane, on the surface of the pia mater. But these terminations are often combined with one another, and all of them are generally combined with more or less serous effusion. On

what these varieties depend, is very much matter of conjecture,—probably on the seat of the disease. The superficial adventitious membrane probably arises from inflammation of the pia mater, and the destruction of the fornix and septum lucidum from inflammation of these parts. The same appearance is observed in the inner surface of the ventricles; but in some cases suppuration is observed there also. The cortical or cineritious part would appear to be the most frequent seat of suppuration; but it is by no means confined to this structure; and, upon the whole, this part of the subject is little better than conjecture.

Sect. II. Examples of the principal Forms and Terminations of the Disease.

The various forms of disease which have been described in the preceding section, exhibit a general view of the symptoms of chronic inflammation of the brain. The morbid condition with which they are connected, I believe to be primarily the same in all of them, but the symptoms are modified by a variety of circumstances; the particular effect of which has not been fully investigated. These circumstances may be chiefly referred to three heads;—the constitution of the patient, the seat of the disease, and the mode of its termination. 1. They are modified by the constitution of the patient, as from this source they probably derive their character in regard to activity;—in one case approaching to the nature of acute phrenitis,—in another, consisting of the pure scrofulous inflammation, with the smallest degree of activity,—and in others forming numerous modifications, by which these two extreme cases are connected together by almost insensible gradations. 2. They are probably modified by the seat of the disease. We have reason to believe that, in this respect, there are considerable varieties; that the inflammation may be seated in the deep or central parts of the brain—in the substance of the hemispheres—in the membranes—in the cerebellum—in the medulla oblongata, &c. The effects of these varieties remain to be investigated; but they form a very difficult subject of investigation, from the difficulty of ascertaining what part was really the seat of the inflammation, and from the facility with which it may pass from one part to another. 3. The varieties of termination present sources of difference not less interesting than the former, and more within the reach of observation. These varieties have already been alluded to: the disease may be fatal in the inflammatory stage—it may terminate by serous effusion—by suppuration—by deposition of new matter on the surface—by a peculiar disorganization of the central parts—and by various combinations of these terminations. It may be of some use towards

illustrating this most important and dangerous disorder, if I describe a selection of cases, calculated to exemplify the principal varieties in the symptoms and terminations, and some of the more remarkable differences in the seat of the disease.

I. *The disease fatal in the inflammatory stage.*

Case 1.—A woman, aged 26, had laboured under bad health, in a variety of forms, for eighteen months before her death. Her complaints began with severe headach and frequent attacks of convulsion. After some time these complaints subsided, and she was seized with cough, hæmoptysis, quick and laborious breathing, and scarcity of urine. The complaint of her breathing came on in paroxysms, during which her respiration was 80 or 90 in the minute, and sometimes continued nearly in this state for several days together. Her pulse was constantly frequent. After she had suffered for many months from these complaints, they subsided entirely, without any obvious cause. She then became affected with violent paroxysms of pain in the abdomen, dysuria, and vomiting. The pain was principally in the right side of the abdomen, which was swelled, tense, and painful upon pressure, and the paroxysms were succeeded by copious discharges of puriform fluid by the vagina. There was a temporary alleviation of the pain after every discharge of this fluid. The last time I saw her, which was a few weeks before her death, there was a general swelling and hardness occupying the whole right side of the abdomen, extremely tender to the touch, and conveying the impression of extensive organic disease. I did not see her in the fatal attack, which was in the head. It began with severe headach, impatience of light, and fever; these were succeeded by convulsion, and this by coma; and she died comatose, about a week after the appearance of these symptoms. On *dissection*, I found the surface of the brain, in many places, of a dark red colour. This appearance extended in some places to the depth of an inch into the substance of the brain; and it was principally observed on the upper and anterior parts of both hemispheres, and on the posterior part of the left hemisphere. The parts so affected were softer than the other parts of the brain, and appeared to be more vascular; for drops of blood exuded from them when they were cut. The internal parts of the brain were sound, and there was no serous effusion. The longitudinal sinus, near its posterior part, was thickened in its coats so as considerably to diminish its area. The hardness of the abdomen, which was so remarkable a short time before death, had disappeared; and not a vestige of disease could be detected in any of the viscera of the thorax, abdomen, or pelvis.

II. *Serous effusion.*

Case 2.—A boy, aged 9, was affected with slight headach, foul tongue, bad appetite, and disturbed sleep. Pulse from 96 to 100. He was not at first confined to bed, and the complaint excited little attention. The first week of his illness was passed with these slight symptoms; he was one day better, and another rather worse; his headach sometimes gone for great part of a day, and never severe. Towards the end of the second week there appeared to be a want of correspondence in the symptoms, the headach being greater and more permanent than accorded with the degree of fever; but even on the 13th and 14th days, the complaint had still much the appearance of mild continued fever, and was considered in that light by a practitioner of the first eminence. During the second week, however, the headach had become more severe, while the other febrile symptoms had been diminishing. On the fifteenth day the pulse sunk rather suddenly to 70, and the headach was increased. On the sixteenth day there was a slight convulsion. On the seventeenth there was coma, with some squinting; the pulse below the natural standard. On the eighteenth the pulse began to rise, and the coma was diminished. On the nineteenth and twentieth he was distinct and intelligent; tongue clean; some appetite; pulse 96. On the following day his appearance was less favourable. He then sunk gradually into coma, with squinting, and died about the thirtieth day of the disease. The pulse had risen to 120, and in the last week there had been some slight return of convulsion. On *dissection*, all the ventricles of the brain were found distended with clear serous fluid. There was no other morbid appearance, except considerable turgidity of vessels on the surface of the brain.

Case 3.—Mr M. aged 24, was affected with slight headach, with unusual listlessness and indolence. He ascribed the complaint to cold, and for the first week continued to attend to his business. In the second week he had considerable headach, shivering, debility, bad appetite, foul tongue, and disturbed sleep. Pulse about 112. Towards the end of this week his friends observed once or twice a slight and peculiar forgetfulness. In the third week his pulse came down rapidly to 72; his tongue became clean; he made little or no complaint of his head; but there was occasionally a degree of incoherence, which was slight and transient, and a singular forgetfulness on particular subjects, which was observed by his friends, but did not appear in his intercourse with his medical attendants. The pulse continued slow for two days, and then rose rapidly to 130, with

increase of the delirium. After a few days more, the delirium again subsided, and his attendants entertained hopes of his recovery; but it soon returned, and was rapidly followed by blindness, coma, and death. He died about the middle of the fourth week of his illness. I did not see him during his life. I examined his body, and found all the ventricles of the brain distended with serum. There was no other morbid appearance.

III. *Peculiar Destruction of the Central Parts of the Brain, without Effusion.*

Case 4.—Mrs R., aged about 30, (18th June 1816), was affected with violent pain of the head, which extended across from temple to temple. She was extremely restless, and tossing from one side of the bed to the other, owing to the intensity of the pain; eyes slightly suffused, and impatient of light; pupils contracted; pulse 60, soft, and rather weak; tongue white; had been ill several days.

She was bled copiously and repeatedly. Used strong purgatives; cold applications to the head; blistering, and topical bleeding.

For three days she appeared much relieved; the violent pain was removed; she complained only of pain when she moved her head. Pulse from 80 to 90. She was quite sensible, but considerably oppressed, and inclined to lie without being disturbed. On the 22d her speech was affected; she was sensible of it herself, and said she 'felt a difficulty in getting out her words.' Pulse 112.

23d, 24th.—Increasing stupor, and at times incoherence; but when roused, answered questions distinctly. Double vision; made no complaint; said her head was better. Pulse from 112 to 120.

25th.—Increasing stupor; pulse less frequent.

26th.—Complete coma; dilated pupil. Pulse 108, of good strength.

Died in the night. More blood-letting, general and topical, mercury, &c. had been used without benefit.

Dissection. The fornix and septum lucidum were broken down into a soft white pulpy mass. There was no effusion in the ventricles; and the other parts of the brain appeared to be in the most healthy state.

IV. *Peculiar Destruction of the Central Parts combined with Effusion.*

Case 5.—J. N., a stout young man, aged 20, (18th September 1814), was affected with violent headach, extreme restlessness,

and some delirium; face flushed; pulse 60. Had been unwell so as to keep the house for a week, but only occasionally in bed; symptoms much increased for two days. Pulse on the former days had been from 80 to 90.

19th, 20th.—No improvement; violent headach; a good deal of delirium. Pulse from 75 to 80. Large and repeated blood-letting, cold applications, blistering, purging, &c. were employed.

21st, 22d.—Headach easier; less delirium; pulse 80.

23d, 24th.—Continued better. Pulse from 80 to 84.

25th.—A tendency to stupor; began not to know those about him.

27th.—The stupor had increased to perfect coma, in which state he lay for four days, and died. His pulse had continued from 75 to 84.

Dissection.—Much effusion in the ventricles, and a good deal found in the base of the skull. The fornix was broken down into a shapeless mass of white pulpy matter. From similar destruction a large opening had been formed in the septum lucidum; and the cerebral substance, forming the inner surface of the lateral ventricles, had the same soft pulpy appearance. There was considerable deposition of coagulable lymph on the upper surface of the cerebellum.

Case 6.—D. G., a printer, aged 21, (3d September 1816), was affected with violent headach and impatience of light; frequent vomiting; had an oppressed look, with unfixed expression of his eyes. Pulse 70, and strong. Tongue clean. Had been ill six days; for three days had vomited almost every thing he had taken.

Large blood-letting, purging, blistering, &c. were employed; and afterwards mercury, and an issue in the neck.

4th.—Vomiting abated; headach relieved; pulse 54.

5th.—Pulse 56; headach much relieved; no vomiting.

7th.—No headach; eyes bore the light; look natural; pulse 48; double vision occasionally, not constant.

9th.—Sitting up, and dressed; pulse 60; no pain; constant double vision; tongue clean; some appetite.

10th.—Vision natural; in other respects as before.

11th.—Pulse 96. Made no complaint; but his look was vacant, and the pupils dilated; and there had been some delirium in the night; tongue clean; bowels open; vision natural.

12th.—Pulse 96. Considerable delirium; no complaint of his head; vision natural.

13th.—Increasing stupor.

14th.—Perfect coma. Pulse 120.

15th.—Died.

Dissection.—All the ventricles were distended with fluid. The fornix was broken down into a soft pulpy mass, which could not be raised; other parts of the brain healthy.

V. *Suppuration without effusion.*

Case 7.—A girl, aged 11, thin and delicate, after having complained for some days of headach, was seized on the 11th of January 1817 with convulsion, which continued about half an hour. I saw her on the 12th, and found her affected with severe headach and paralysis of the right arm, which had taken place immediately after the convulsion. The pulse was 100; the tongue foul; the face rather pale; and the eyes languid. Being bled from the arm and purged, and cold being applied to the head, she was much relieved. On the 13th the pulse was natural; the pain much abated, and she had recovered considerable motion of the arm. On the 15th, the headach being increased and the arm more paralytic, she was bled again; and, on the 17th, she was much relieved; pulse natural, and the motion of the arm much improved. On the 18th, after being affected with increase of headach and some vomiting, she became convulsed; the convulsion was confined to the head and the right arm; the former was drawn towards the right side, with rolling motion of the eyes; the arm was in constant and violent motion; pulse 100. She was sensible, and complained of her head. Being bled to ℥viij., the convulsion ceased instantly, and the headach was relieved; but the right arm was left in a state of complete paralysis. 19th and 20th, the arm had recovered a little motion. Some headach continued, with occasional vomiting; pulse 60. On the three following days the same convulsive motion returned several times. It now did not affect the head or face, but was confined to the right arm, which was then left in a state of permanent paralysis. Hitherto no other part of the body had been affected by the convulsion; but on the 24th, the right thigh and leg were affected by it, and remained in a state of paralysis; pulse 60. The usual remedies, bleeding, purging, blistering, &c. had been employed with activity, without any effect in arresting the progress of the disease. The right thigh and leg now went through a course similar to that described in the arm; and, on the 29th, remained in a state of permanent paralysis. When the convulsion first began to affect the leg, the arm was affected at the same time; but afterwards it was confined to the thigh and leg, the arm remaining motionless. February 4th, Complete paralysis of the right

side; continued quite sensible; pulse from 50 to 60; no return of convulsion; little complaint.

She now continued for several days without any change; except the paralysis of the right side, every function was natural. She was quite sensible; appetite good; pulse and vision natural; and she made little complaint. She was, however, inclined to lie without being disturbed, and gradually became more oppressed. On the 11th this had increased to perfect coma, in which she continued for three days, and died on the 14th.

Dissection.—In the upper part of the left hemisphere of the brain, there were two abscesses, containing together from 6 to 8 ounces of very fetid pus. They had no communication with each other, nor with the ventricle. The one was in the anterior part of the hemisphere, very near the surface; and the other immediately behind it, separated by a thin septum of firm white matter; a similar white matter formed the lining of the abscesses. In the posterior part of the right hemisphere, there was a small abscess containing probably half an ounce of pus. There was no serous effusion in any part of the brain, and no other morbid appearance.

VI. *Suppuration combined with serous effusion.*

Case 8.—Mr C. aged 18, had been for many years affected with a considerable degree of deafness, and had been liable to suppuration of the ears. In 1810 he was affected with a chronic abscess behind the left ear, by which a probe could be passed to a great depth into the cells of the mastoid process. This sore discharged for more than a year, and then healed, leaving a deep cicatrix. From this time he was liable to headach, which became more severe in the beginning of 1813.

May 14, 1813.—After being for some days languid and complaining a little of his head, he was seized with severe headach and frequent vomiting; was much oppressed, and disposed to lie in a dosing state without being disturbed. Pulse 60.

He was treated by large and repeated blood-letting, purging, topical bleeding, blistering, and then mercury.

15th.—Vomiting abated; headach violent; pulse 60. Several severe attacks of shivering; was oppressed, and disposed to sleep, but sensible; eyes natural.

16th.—Headach relieved; increasing oppression.

From that time there was partial stupor, with much talking, which was generally coherent. Pulse very variable; varying in a few minutes from 80 to 120. He died on the 22d, rather unexpectedly, without perfect coma. He had continued

to know those about him till 12 hours before his death. His sight continued natural, except on the last day of his life, when he appeared to be blind. There had been no paralytic symptom, and no convulsive affection.

Dissection.—The right hemisphere of the brain, to about half its depth, was reduced to a mass of fetid pus. In the centre it was fluid, and towards the external parts of a pulpy consistence. In this mass there appeared some small coagula of blood, and all the ventricles contained a considerable quantity of bloody serum.

VII. *The peculiar destruction of the central parts combined with Suppuration.*

Case 9.—Mr D. aged 18, (July 10, 1815), was affected with violent headach, extending along the upper and back parts of the head, and very severe in the neck, where it was much increased by the motion of the head. Much oppression; pulse natural; face rather pale; tongue clean; eyes natural. Had been ill three days; and the complaint had commenced with shivering; had been many years affected with deafness, and liable to suppuration of the ears.

The usual practice was employed; general and topical blood-letting, purging, blistering, &c.

The bleeding gave great relief at each repetition of it, and the blood was buffy, but the relief was transient. On the 13th he had squinting and double vision, which continued on the 14th, but then went off, and did not return. The headach continued, with many variations in degree; sometimes he made little complaint, at other times he was in violent pain. There was sometimes a degree of delirium, but it was slight and transient. There was much oppression, but no coma. He died on the 17th very suddenly. At my last visit he raised himself in bed with little assistance, answered questions distinctly and correctly, and knew every person about him; sight natural; pulse 60; died a few minutes after I had left the house.

Dissection.—The whole of the posterior part of the right hemisphere was one mass of undefined suppuration, and the fornix was broken down into a soft pulpy mass. There was considerable deposition of coagulable lymph on the surface of the brain in several places, especially under the anterior lobes. There was a very small quantity of fluid in the ventricles. There was in the substance of the brain, near its base, a small tumour of an ash colour, which contained a cheesy matter, approaching to suppuration. A portion of the dura mater covering the

temporal bone, behind the auditory portion, was thickened and spongy; and there was a slight appearance of caries in the portion of bone with which the diseased membrane was connected.

VIII. *Suppuration with extravasated Blood.*

Case 10.—A man, aged 40, had complained for two months of frequent pain and throbbing of the left side of his head. In March 1814, he began to be affected with convulsive motions of the right arm and leg. These attacked him in paroxysms, which usually continued about a minute, leaving him in the intervals able for his usual employment. After blood-letting and purging, these paroxysms became less frequent, and after eight or ten days ceased. He was then affected with giddiness and confusion of thought, and a considerable torpor of the right side; after some time, this came to be attended with motions in the right arm and leg, exactly resembling those of chorea. The muscular power of these parts was at the same time diminished, and at the end of two months from the first appearance of the spasmodic affections, they became completely paralytic. His pulse had continued quite natural. His speech was then affected, being first inarticulate, and gradually lost; so that after the middle of June he never was able to articulate a word. About this time his pulse began, for the first time, to be a little frequent, and he passed his feces and urine involuntarily, but his mental faculties seemed to be entire. He took food when it was offered to him, and put out his tongue when desired. His eye was natural, and the expression of it intelligent. His sight and hearing appeared to be perfect, but he never attempted to speak. He often screamed as from pain, at the same time laying his hand on his forehead, and frequently shed tears. He continued in this state till the end of July, when he became comatose, and died in three days.

Dissection.—On removing the dura mater, the left hemisphere of the brain felt soft and fluctuating through its whole extent like a bag of fluid. On cutting into it, through about half an inch in thickness of sound cerebral substance, the remainder of the hemisphere was found nearly reduced to a bag of purulent matter; where it was not in this state, the cerebral substance was reduced to a soft pulpy mass. From this mass of disease, the ventricle was separated merely by the pia mater covering its inner surface, and it contained a very small quantity of serous fluid. In the substance of the left thalamus nervi optici there was a coagulum of blood the size of a walnut.

IX. *Suppuration of the Cerebellum, combined with effusion in the Brain.*

Case 11.—Miss C. aged 18, on the 4th of March 1813, was seized with the ordinary symptoms of inflammation of the bowels. The inflammatory symptoms were subdued by two full bleedings, but the bowels continued very obstinate, and were not moved in a satisfactory manner till the 12th. During this period, a variety of purgatives had been given, with repeated injections of tobacco; and by calomel, given as a purgative, her mouth had been affected as early as the 7th.

From the beginning of the attack she had been affected with pain in the left ear, and, about the 7th, began to complain of headach. This was at first slight, and, amid the urgency of her other complaints, excited little attention. It increased, however; and on the 11th had become very violent. She then lay pressing her temples with her hands, and screaming from pain. The pulse at this time was natural; she was free from vomiting, and uneasiness of the bowels. On the 11th, there was a considerable discharge of matter from the left ear. On the 13th the pulse rose suddenly to 160, and there was such a degree of sinking as required the use of wine. The pulse soon subsided again, so that on the evening of the 14th it was at 80, and on the 15th at 60. The headach continued unabated. On the 14th there was a tendency to coma, which was increased on the 15th, with dilatation of the pupils. There was little room for active practice; topical bleeding, blistering, &c. were employed without relief. On the 16th, the pulse began to rise again, but was very variable, varying in the course of a few minutes from 80 to 120. She lay in a state of great oppression; but when roused, knew all those about her, and talked sensibly; headach still severe.

18th.—Lost the power of swallowing; often asked for drink, and was nearly suffocated in the attempt. Pulse from 90 to 150.

19th.—Squinting and dilated pupil. Pulse from 96 to 160.

20th.—Squinting increased; swallowed a little once or twice with an effort; at other times was nearly suffocated in attempting it; was still quite sensible when roused, and complained of violent headach. Sunk gradually, and died on the 22d. Continued sensible when roused, and knew those about her, till within an hour or two of her death. She also retained the sense of vision, though the pupils were much dilated.

Dissection.—The surface of the brain was natural: the substance showed marks of increased vascularity, and the ventricles were distended with colourless fluid. The left lobe of the cerebellum was entirely converted into a bag of purulent matter, of

a greenish colour, and intolerable fetor. It was contained in a soft and organized sac, which appeared to have been recently formed. A portion of the dura mater, on the outer side of the abscess, was thickened, and spongy; the bone was sound. The caput coli, and about eighteen inches of the extremity of the ileum, were of a dark livid colour, but sound in their structure.

Case 12.—A girl, aged 9, was liable to attacks of suppuration of the ear, which were usually preceded by severe pain, and some fever. She suffered one of these attacks in the left ear in July 1810, in which she was not, as formerly, relieved by the discharge of matter, but continued to be affected with pain, which extended over the forehead. In consequence of this, I saw her, for the first time, on the day in which the discharge took place, and found her affected with pain across the forehead, impatience of light, and some vomiting; her look was oppressed; the pulse 84.

Blood-letting, purging, blistering, and mercury, were employed without relief.

On the second day the pulse was 60; on the 3d there was slight and transient delirium, a degree of stupor, and once slight convulsion. She complained once or twice of pain in the back of the head; but her chief complaint was always of the forehead. She lay constantly with both her hands pressed upon the forehead, and moaning with this pain, of which there had not been the least alleviation. 4th day, Pulse from 80 to 86; no change in the symptoms; oppression, but no coma. 5th, Continued sensible, and died suddenly in the afternoon, without either squinting, blindness, or coma, and the pulse having continued under 90. The left ear had continued to discharge matter, and an opening had formed behind the external ear, from which also there was a purulent discharge.

Dissection.—A considerable quantity of colourless serum was found in the ventricles of the brain. The brain was in other respects healthy. In the left lobe of the cerebellum, there was an abscess of considerable extent, containing purulent matter of intolerable fetor. The dura mater, where it covered this part of the cerebellum, was thickened and spongy, and the bone corresponding to this portion was soft, and slightly carious on its inner surface, but there was no communication with the cavity of the ear. The opening behind the ear merely passed behind the external ear, and communicated with the external meatus.

X. *Deposition of new matter on the surface of the Brain.*

Case 13.—A boy, aged 11, had been for about a fortnight

remarkably listless and inactive, and affected with frequent vomiting. The vomiting had recurred every day, sometimes several times in the day; his bowels were costive, but he complained of no pain, and was free from fever. In the evening of 29th June, 1816, he was seized with violent convulsion, which recurred repeatedly. In the intervals he had severe vomiting, and complained of headach. Pulse 60. The convulsion recurred frequently through the following night; in the intervals, he complained that he could not see. Towards the morning, the convulsion ceased, and left him in profound coma. The coma continued till mid-day on the 30th, when it began to abate, after he had been freely purged. In the evening he was quite sensible, and complained of headach. Pulse 120.

July 1st.—The ordinary round of practice having been adopted, he was much relieved; no headach; no vomiting; tongue moist. Pulse 120.

2d.—Pulse 108. No complaint; much disposed to sleep; pupils rather dilated.

3d.—Pulse 112. No complaint; appearance much improved; eye natural; bowels open; tongue clean; no unusual drowsiness.

4th.—Pulse 108. Functions natural; a good deal disposed to sleep.

5th.—Pulse 70; had an attack of vomiting, and complained violently of his head; afterwards sunk into a degree of stupor; was sensible when roused, but impatient of being disturbed; complained much of his head; eyes natural; repeated vomiting.

6th.—Perfect coma, with frequent convulsion; pulse from 120 to 160; he frequently lay with one hand pressing his forehead, and the other on the lower part of the occiput, as if he felt pain at both these places.

7th.—In profound coma the whole day. Died in the night.

Dissection.—On raising the dura mater, the surface of the brain had in many places the appearance as if purulent matter was confined under the arachnoid coat. On raising this membrane, however, the appearance was found not to be owing to pus, but to a layer of firm yellow substance which lay betwixt the arachnoid coat and the pia mater. It was in general of the thickness of a smooth shilling; some portions were thicker, and in some places masses of it of considerable thickness lay betwixt the convolutions. There was also a good deal of it between the hemispheres, which were partially glued together by it. The principal seats of this appearance were the anterior part of both hemispheres, the inferior surface of the brain, especially

in the depressions between the lobes, and nearly the whole surface of the cerebellum. On the posterior parts of the brain, where this membrane was wanting, the pia mater was evidently inflamed. The surface of the brain at these places had also an inflamed appearance, but it did not penetrate into its substance. The central parts were healthy; there was no effusion in the ventricles; some fluid was found in the base of the cranium after the brain was removed.

Case 14.—A girl, aged 9, awoke suddenly in the night of 20th September 1817, screaming with violent headach, and exclaiming, that some person had given her a blow on the head.

21st.—She complained of pain of the forehead; but she was not in bed, and the pain was not severe.

22d.—Little change; partly in bed, and complaining of headach, but the complaint excited no alarm.

23d.—Was seized with violent and long-continued convulsion, which was immediately succeeded by profound coma.

24th.—I saw her for the first time; found her in perfect coma; the eyelids open; the eyes distorted upwards; pulse natural. Continued in the same state on the 25th, and died on the 26th.

Dissection.—On removing the dura mater, the surface of the brain appeared highly vascular, as if inflamed, except where it was covered by a layer of solid matter, of a yellow colour, spread out betwixt the arachnoid membrane and the pia mater. This substance was distributed in irregular patches over various parts of the surface of the brain, but was most abundant on the upper part of the right hemisphere. There was also a considerable quantity of it on the surface of the cerebellum. It was in general of the thickness of an old shilling, and in some places it extended down betwixt the convolutions. There was considerable gelatinous effusion about the optic nerves, and about one ounce of colourless fluid in the ventricles. The substance of the brain throughout was unusually vascular.

XI. *Deposition on the surface, combined with Suppuration in the Ventricles.*

Case 15.—A child, aged 5 months, previously in perfect health, was seized with convulsion on the evening of 21st November, 1817. The attack, which was not of long duration, was ascribed to dentition; the gums were divided over several teeth that appeared to be producing irritation, and the other remedies were recommended that are usual in such affections. He continued well through the night. On the 22d, was oppressed with

quick breathing; and in the afternoon, without any return of convulsion, he fell into a comatose state. This continued several hours, and then subsided, after bleeding with leeches on the temples, brisk purging, and the use of cold applications to the head. On the 23d he was much relieved; eye clear; took notice of objects, and was disposed to play: had no complaint, but occasional starting. On the 24th, continued through the day in the same favourable state. Late at night he was seized with convulsion, which continued to recur at short intervals through the whole night; and he died early in the morning.

Dissection.—On the surface of the brain, between the pia mater and the arachnoid membrane, there was an extensive layer of a firm adventitious membrane of a yellow colour, similar to that which has been described in the two preceding cases. It covered a great part of the upper surface of the brain, and there was a considerable quantity of it on the inferior surface of the anterior lobes, between the hemispheres, and on the cerebellum. In the lateral ventricles, there was nearly an ounce of purulent matter, and the substance of the brain surrounding the ventricles was very soft. There was no serous effusion. There was much gelatinous effusion about the optic nerves, under the base of the brain, and under the cerebellum. Under the medulla oblongata there was gelatinous effusion, mixed with some purulent matter.

XII. *Suppuration on the Surface of the Brain.*

Case 16.—A child, aged eight months, died 13th March, 1818, of an illness which had continued rather more than three weeks. It began with fever, restlessness, and quick breathing; afterwards, there were frequent slight convulsive affections, with much oppression, and at last severe convulsions, squinting, and coma. At an early period of the complaint, there was observed a remarkable fulness or prominence of the anterior fontanelle; towards the end of the second week, this increased considerably; in the third week it was elevated into a distinct circumscribed tumour, like the half of a large gooseberry. This tumour was on the middle of the fontanelle, and was soft and fluctuating; pressure upon it occasioned convulsion. It was opened by a small puncture, and discharged at first some purulent matter, afterwards bloody serum. No alteration took place in the symptoms; and the child died four days after.

Dissection.—The opening which had been made through the fontanelle was found to lead to a superficial deposition of thick flocculent yellow matter mixed with pus, under the dura mater, and covering the surface of the brain to a considerable extent. There was also a deposition of similar matter under the arach-

noid coat, and between the convolutions, about the optic nerves, and under the medulla oblongata. There was a good deal of fluid in the ventricles.

XIII. *Suppuration within the left Lateral Sinus.*

Case 17.—Miss S., aged 16, (3d August, 1816), complained of severe headach, which extended over the whole head; had an oppressed look, and great heaviness of the eyes; pulse 120; tongue clean and moist; face rather pale. She had been liable to suppuration of the ears; and the left ear had been discharging matter for three weeks; had complained of headach for a fortnight; confined to bed two days.

General bleeding, purging and blistering, were employed on the 3d and 4th with considerable temporary relief.

5th.—Headach easier; some vomiting, and several severe attacks of shivering; pulse 112.

6th.—Pulse 84; headach severe; now confined to the back part of the head; eye heavy; pupils a little dilated; bleeding from the temporal artery was employed, purging, an issue in the neck, &c.

7th.—Pulse in the morning 84, in the evening 120; headach as before; a dull vacant look; bowels very open; a buffy coat on the blood from the temporal artery.

8th, 9th.—Pulse rising, from 120 to 148. Severe pain of the back of the head and neck.

10th, 11th.—Pulse from 180 to 140; strength failing; a tendency to stupor, and occasional delirium; but was sensible when fully roused, and said she felt that she was at times delirious; constant complaint of pain in the back of the head.

12th.—More comatose, but sensible when roused; spoke sensibly, and knew those about her a few minutes before her death, which happened about mid-day.

Dissection.—The pia mater was highly vascular, as if minutely injected; in some places, especially on the posterior part, it was distinctly inflamed; the veins were very turgid; and at one place, on the posterior part, there was a slight appearance of extravasated blood under the pia mater. There was no serous effusion, and no disease in the substance of the brain; the left lateral sinus was remarkably diseased through its whole extent. When compressed, it discharged purulent matter, and some thick cheesy matter; it contained no blood; its coats were much thickened; and its inner surface was dark coloured, irregular, and fungous. At one place the cavity was nearly obliterated. The disease extended into the torcular Herophili, and affected a little the termination of the longitudinal sinus,

Behind the auditory portion of the temporal bone, near the foramen lacerum, and in the course of the left lateral sinus, a portion of the bone, nearly the size of a shilling, was dark-coloured and carious on the inner table. It was at this place that the sinus appeared to be most diseased. The auditory portion of the bone was extensively carious; the cells of it were every where full of purulent matter, and communicated freely with the cavity of the ear.

XIV. *Suppuration of the Brain, with remarkable disease of the Bones of the Cranium.*

Case 18.—A woman, aged 48, about a year before her death, fell down a stair, and received various injuries, especially one on the head, which confined her to bed for some days. From this time her health was bad. She generally complained of fixed pain of the head, and various disorders of the stomach and bowels. She, however, went about her usual employments till about three weeks before her death, when she was suddenly attacked with fever, and outragious delirium. After a bleeding from the arm these symptoms subsided; next day she had extensive erysipelas of the face, which went off in a few days. She was then able to be out of bed, but complained of a fixed and deep-seated pain in the right side of the head, a little above the ear, and there was a discharge of matter from the right ear. She continued in this state, sitting up part of the day, till three days before her death, when she became comatose, with partial paralysis of the left side, and frequent convulsive agitation of the right arm. She died on the third day after the occurrence of these symptoms.

Dissection.—The cranium was very easily opened, the bones being remarkably soft. On raising the skull-cap, the inner surface of the whole upper part of the cranium exhibited a singular state of disease. The smooth surface of the inner table was wanting through its whole extent, and there appeared the rough, irregular, cancellated structure of the central part of the bone. Betwixt this surface and the dura mater, there was a soft adventitious membrane of a yellowish colour, varying from $\frac{1}{12}$ to $\frac{1}{8}$ of an inch in thickness. In raising the skull-cap, this membrane in some places adhered to the dura mater, leaving exposed the rough irregular surface of the bone; in other places it adhered to the bone, exposing the dura mater of its natural appearance. The parts affected by this disease were, the frontal bone above the orbitar plate, the whole of both parietal bones, the squamous portions of both temporal bones, and rather more than the upper half of the occipital bone.

The greatest erosion was on the parietal bones, where some portions were transparent, and at a few points eroded quite through. The external surface of the cranium was of a natural appearance, except at a few points, where it was perforated by the erosion. In the lower part of the right hemisphere of the brain, towards the posterior part, there was an extensive abscess. The brain in other respects was healthy. On the petrous portion of the right temporal bone, the dura mater was of a dark colour, and detached from the bone, but the bone was not carious.

XV. *Abscess of the Medulla Oblongata.*

CASE 19.—A child, aged 16 months, whom I saw only a week before his death, had been in a declining state for ten months. The beginning of his bad health was ascribed to a fall, in which he was supposed to have sustained an injury of the back of the head or neck. I could obtain no very distinct account of his illness. He was reported to have been often much oppressed, and gradually wasting. Three months before I saw him he had squinting, and appeared to lose the use of the right arm and leg. The squinting went off after some time, and afterwards recurred occasionally. The use of the arm and leg appeared never to have been entirely recovered; they always appeared much weaker than those of the other side, and he seldom attempted to raise the arm at all. He had also occasionally suffered slight convulsive affections. When I saw him, there was no marked symptom, except considerable emaciation; the pulse was frequent; the bowels were costive. Much dark-coloured matter being evacuated from his bowels, he seemed to be relieved. After some days I took notice of a remarkable slowness of the pulse, without any other symptom. In the course of that day, he was attacked with violent convulsion. This recurred several times during two days, and then proved fatal. There was no coma; the eyes continued sensible except during the convulsions, and he took notice of objects a very short time before his death.

Dissection.—There were several ounces of fluid in the ventricles of the brain, and considerable gelatinous effusion about the optic nerves. In the substance of the medulla oblongata, where it is crossed by the pons Varolii, there was an abscess which appeared to occupy the whole diameter of it. It had the appearance of a scrofulous abscess; and was contained in a sac, the inner surface of which was of a yellow colour, and ulcerated. There was considerable disease in the glands of the mesentery.

XVI. *Remarkable thickening of the Dura Mater.*

Case 20.—Mr M. aged about 60, for about two years before his death, had been liable to attacks of giddiness, with loss of muscular power, in which, if not prevented, he would have fallen down. In these attacks he did not lose his recollection, and he recovered completely in a few minutes. Before the commencement of this complaint, he had been liable to severe headach, with some giddiness, the attacks of which generally went off with spontaneous vomiting. He was entire in his mind, but considerably fallen off in flesh and strength; he felt an unsteadiness in walking which made him afraid of walking alone; and, for several months before his death, had perceived an increasing weakness in both lower extremities. On the 1st of August, 1816, he was attacked with hemiplegia of the left side, accompanied by headach and giddiness. His pulse was natural, and his mind was not affected. For four days he continued to be affected with the most complete hemiplegia; he then began to recover a little motion of the parts; and, about the 15th, was able to raise his arm to his head, and to walk a little with assistance; he still complained of giddiness and noise in his ears; but had little headach: bleeding and purgatives had been employed, with spare diet. On the 19th there was considerable headach. On the 20th he was incoherent; and on the 21st in perfect coma, with some convulsion. On the 22d, he was considerably recovered, so as to know those about him, and answer questions rationally; but at night relapsed into coma, and died on the 23d. For the last three days his pulse had been from 112 to 120.

Dissection.—Along the upper part of the right hemisphere of the brain, there lay a remarkable tumour 5½ inches long, 2½ broad at the broadest part, and about ½ an inch in thickness. It was formed by a separation of the laminæ of the dura mater, and a deposition of new matter betwixt them. This new matter was, at the posterior part, white and firm. In other places, chiefly about the centre of the tumour, it was more recent coagulable lymph, firm, yellow, and semitransparent; at the anterior part there was a cavity containing a yellowish serous fluid. This tumour lay from before backwards, along the right hemisphere; its inner edge was about an inch from the superior longitudinal sinus. The dura mater in the neighbourhood of the tumour all around, was considerably thickened, as were also the coats of the longitudinal sinus. The surface of the brain, where the tumour lay, was depressed by it so as to retain the impression of its figure; and on the anterior part, the sub-

stance of the brain was to a considerable depth soft, and broken down, with some appearance of suppuration. There was very little serous effusion, and no disease in any other part of the brain.

Sect. III. General Observations.

The painful detail of fatal cases which I have described in the preceding section, may be considered as illustrating the principal forms and terminations of chronic inflammation of the brain. Much remains to be done before we can obtain a complete acquaintance with this dangerous disease; but there are several principles, both pathological and practical, which appear to be legitimate conclusions from the cases that have been described. They may be referred to the following heads.

I. *Varieties of Hydrocephalus.*

Of the cases which terminate by serous effusion, there appear to be two leading varieties, which differ remarkably from each other. In the one, the symptoms are at first slight, and excite no alarm; and it is only at an advanced period of the complaint, when it begins to pass into coma, that it assumes the character of a dangerous affection of the brain, (cases 2d and 3d.) In the other, the symptoms are from the first acute and violent, indicating an inflammatory action of the most dangerous kind, (cases 5th and 6th.) Betwixt these two forms of the disease, a remarkable difference occurs in the morbid appearances. In the former, there was serous effusion, without disease in the substance of the brain; in the latter, the effusion was combined with that peculiar destruction of the central parts of the brain, which I have given my reasons for considering as the effect of inflammation of these parts. In case 4th, this destruction of the central parts was the only morbid appearance, though the disease exhibited all the ordinary symptoms of hydrocephalus. Since I first began to pay attention to this appearance, I have generally found the serous effusion combined with it in those cases in which the symptoms were acute, and uncombined with it in those in which the symptoms were at first slight, and the progress slow and insidious, exciting little alarm till they began to show a tendency to coma. Have we not, then, reason to believe, that, in these acute cases, the original disease is a deep-seated inflammation of the brain?—that this inflammation may give rise to serous effusion, or that it may run its course to a fatal termination without effusion? In our pathology of these affections, do we not attach too much importance to the effusion, ascribing

to it symptoms which we have reason to believe may exist without it, and directing much of our practice to promoting its absorption, while, even if we could rely upon this effect being produced, the original and fatal disease would remain unchanged? These remarks I merely offer, at present, as hints for further observation. The subject is too important to admit of any general conclusions from the experience of an individual.

The other form of the disease, in which there are no symptoms of an acute or inflammatory nature, and in which the first indication of danger is from the appearance of coma, appears to differ materially from the acute form which I have just alluded to. The cause of the effusion in these cases is very obscure, and perhaps it has been too little the subject of investigation. On opening the cranium, and finding the ventricles of the brain distended with serum, we are too apt to conclude the examination, and to consider the disease as accounted for. We are not thus satisfied in other parts of the body. On finding effusion in the thorax or abdomen, we do not consider it as a primary disease, but proceed to investigate its origin; and we are generally able to trace it to an affection of some of the viscera, as the liver, the lungs, or the heart. We have as little reason for considering it as a primary disease in the brain, though we have not been so successful in tracing its origin. There is, besides, considerable ground for doubting whether the mere effusion be the cause of the symptoms which usually accompany it.—Morgagni mentions a man who had an attack of hemiplegia, and completely recovered from it: after two years he died suddenly, from suffocation, in the advanced stage of pneumonia, having never, since his former illness, shown any symptom in the head, except occasional headach. On dissection, eight ounces of fluid were found in the ventricles of the brain.—Dr Heberden describes the case of a man, in whom he found, on dissection, about eight ounces of fluid in the ventricles, besides a considerable quantity under the arachnoid coat. He died suddenly, after being weakened by a febrile attack, but without any symptom that indicated disease in the brain. *—From such cases as these, many of which are on record, may we not conjecture, that effusion in the brain does not necessarily produce urgent symptoms, and that the coma and other symptoms which attend the ordinary cases of hydrocephalus, are the result of the morbid condition of the brain, which produces the effusion, and not the immediate effect

* Medical Transactions of the College of Physicians of London, Vol. V.

of the effusion itself? This morbid condition, we have reason to believe, is in one form of the disease chronic inflammation; and we have accordingly seen it accompanied by coma, and the other usual symptoms of hydrocephalus, without having induced effusion. What is the nature of it in the other cases which have not an inflammatory character, is involved in much obscurity. Among the most common causes of serous effusion, in other parts of the body, are circumstances that impede the transmission of the venous blood. In this manner ascites is produced by induration of the liver, and general dropsy by diseases of the lungs and of the heart. In the ventricles of the brain, there is much reason to believe that the effusion takes place from the vessels of the choroid plexus. We see the cellular texture of this substance elevated by it into vesicles resembling hydatids: And in a case by Mr Howship, in which the effusion had a highly inflammatory character, he found the choroid plexus covered with flocculi of coagulable lymph, giving considerable reason to believe, that it had been the source of the effusion. Now, the blood returning from the choroid plexus, as well as from the lining of the ventricles, passes into the straight sinus by the vena Galeni; and this large vessel is perhaps more exposed to compression than any of the other veins of the brain; the branches which form it unite in the velum interpositum, which lies under the fornix; and the trunk of the vein is found passing backwards betwixt the corpora quadrigemina and the posterior part of the corpus callosum. We cannot doubt that these parts are liable to diseases both acute and chronic; but the nature of them has not been sufficiently investigated, nor the effect that they would be likely to produce on the circulation of the vena Galeni. I think, however, we may conclude, upon the most fair and sound analogy, that any considerable interruption to the circulation in that vein, would give rise to effusion in the ventricles. Perhaps there are other causes which may operate in the same manner, such as disease of the sinuses, producing diminution of their area. On these important points much remains to be done by accurate observation.

II. *Suppuration of the Brain.*

Four varieties occur in the form of suppuration, and they appear to differ considerably in their symptoms. (1.) An extensive portion of the brain, often the greater part of one hemisphere, broken down into a soft mass, in which purulent matter is mixed with soft corrupted cerebral substance, perhaps with some pure pus in the centre. (2.) A distinct abscess confined within a soft cyst, the surrounding cerebral substance be-

ing healthy. (3.) Purulent matter on the surface, either betwixt the membranes, or under the pia mater, or both. (4.) Superficial ulceration of the surface of the brain.

1. The first form seems to constitute the *sphacelismus cerebri* of systematic writers, and is exemplified in cases 8th and 9th. The symptoms do not differ materially from those of hydrocephalus, except that there is less coma. This was very remarkable in case 9th, in which the patient was, with the exception of a great degree of deafness, in possession of every faculty a very few minutes before death. After the first, or active stage, is over, the patient generally lies in a state of great oppression, often with incoherent talking, but out of which he can be roused, so as to answer questions distinctly. In both the cases that I have described, shivering occurred at an early period. In one of them there was double vision for one day, which then disappeared, and vision continued natural to the last; in the other, there was blindness on the last day. I have not observed either convulsion or paralysis in this form of the disease, except in the remarkable case (case 10th) in which it was complicated with extravasation of blood.

2. THE ENCYSTED ABSCESS.—In this case, the matter is contained in a defined cavity, which is generally lined by a soft white sac, formed, probably, by effused coagulable lymph. The cerebral substance in the vicinity is little injured. In cases of this kind, convulsive and paralytic affections are more apt to occur than in the former. The course of symptoms in case 7th was very remarkable. The sudden attack of convulsion, followed by paralysis of one arm, probably occurred in the inflammatory stage; for, when the symptoms were relieved by the bleeding and other remedies, the arm recovered its motion; the convulsion returned, and the paralysis along with it, and, after several attacks of the same kind, the paralysis became permanent. The thigh and leg then went through the same course. Circumstances will be afterwards mentioned which render it probable, that, in cases of this kind, convulsions occur while the inflammatory state is going on, and that the period of suppuration is indicated by the permanent paralysis. In this case three abscesses were met with; but whether the successive formation of these had any relation to the successive attacks of the disease in the arm and leg, must be matter of conjecture. In a similar case, related by Bartholinus, the leg was first affected, and afterwards the arm. One abscess only is mentioned, of which it is merely stated that it was on the opposite side. In a case related by Schenkius, there occurred paralysis of the left side and convulsion of the right; there was a superficial abscess on the

right side of the brain; and the membranes covering that part were very dark coloured, and much loaded with blood. Something similar to this occurred in case 18th, in which there was paralysis of the left side, with convulsive agitation of the right arm. In a girl, aged 5, whose case is described by Dr Bateman,* an abscess, containing ℥iv. of pus, enclosed in a firm vascular sac, was found in the posterior part of the right hemisphere. She was first affected with convulsion of the whole body, which continued nearly two days. During this time the left side was in a state of rigid contraction, and the right was in constant motion. When the attack subsided, the left side remained paralytic. She then had headach, squinting, blindness, and repeated convulsion; and died after an illness of eleven weeks, having been comatose only for one day before her death. In some cases of this kind, paralysis has occurred without convulsion, and in others convulsion without paralysis; but some affection of one or other kind has occurred in nearly all the cases of encysted abscess that are on record. In a case described by Morgagni, the prominent symptoms were pain of the left side of the head, delirium, loss of speech, and weakness of the muscles of the left side of the neck. The man died in fourteen days, gradually exhausted; and an abscess was found in the right corpus striatum, which had burst into the ventricle. In a case mentioned by Valsalva, in which the disease was in the corpus striatum, the speech was much affected, and one side was paralytic. In another, there was indistinctness of speech, and paralysis of the right side, connected with an ulcerated cavity in the base of the brain, on the left side. In a third case, by the same writer, there was paralysis of the right side, and convulsion of the left, with an ulcerated cavity in the substance of the brain, under the choroid plexus of the left side. From these observations, it appears that convulsion is apt to occur on the same side with the disease in the brain, and paralysis on the opposite side; and that convulsion may occur in either, or in both. In a few cases, abscess has been found in the brain without any symptoms that had indicated its existence. Morgagni found one in the posterior part of the brain, in a man who died of gangrene of the nates, without any symptom in the head. A man mentioned by Dr Powell,† was received into Bartholomew's Hospital on account of cough, dyspnœa, and bloody expectoration. He died after being a month in the hospital, having been for some

* Edinburgh Medical Journal, Vol. I. p. 150.

† Medical Trans. of the College of Physicians of London, Vol. V.

time before death in a dosing state, with occasional delirium, but without coma, and he had never complained of his head. His lungs were much diseased; and an abscess, the size of a large walnut, was found in the substance of the brain, under the anterior part of the corpus callosum.

These observations apply chiefly to the more acute form of the disease, in which it approaches to the nature of active inflammation of a part of the brain, terminating, in a short time, by the encysted abscess. But it occurs in a more chronic form, producing its symptoms for a much longer time, often for several months, and then proving fatal, generally by suppuration, but sometimes without having suppurated. When the disease, in these cases, proves fatal without suppuration, a part of the brain is found changed in its structure, generally of a reddish colour, and in consistence resembling a steatomatous tumour. The portion so changed is usually small and circumscribed, and it is sometimes surrounded by a sac, which is soft, and of recent formation. This appearance has been called a tumour in the brain. I believe that it is merely a part of the brain in the state of scrofulous inflammation; that, in its early stage, it is a disease which may be cured; and that the formation of a sac of coagulable lymph around it, is the first point in its progress which gives it the character of organic, or hopeless disease. In this state it may be fatal, or, being drawn out to a greater length, it may go on to partial or complete suppuration. This affection, in its first stage, was observed by Burserius * in the anterior part of the right hemisphere, in a man who died after an illness of four months: He had been affected with constant pain of the head, near the vertex, fever, paralysis of the left side, and convulsive affections, which occurred at intervals; his lungs also were ulcerated. Fantonus † found a similar disease in the corpus callosum in a man who had been long affected with intense pain in the crown of the head, with epileptic paroxysms, and at last died comatose and convulsed. This man was affected with inordinate hunger, and an acrid state of the saliva. In the state of suppuration, Burserius found one the size of a pigeon's egg, in the outer part of the right hemisphere, under the squamous suture, in a man who had been affected, for several months, with intense headach, and convulsive tremors of the whole body, which were most severe in the left side. He found another in the posterior part of the brain, near the

* Burserii Instit. Med. Pract. Vol. III.

† Fantoni Epist. de Observat. Med. et Anat. Epist. V.

tentorium, in a woman, who had been ill, for several months, with severe headach, without fever: the pain was so intense as almost entirely to deprive her of sleep; and she seems to have been gradually worn out by the severity of it, without any other remarkable symptom.

This form of chronic inflammation of a small part of the brain is a disease of much importance. The symptoms may go on for several months, so as to assume the characters of organic disease; they may remit so as to resemble periodical headach; the disease may then be fatal, often unexpectedly; or, after it has appeared to resist all our remedies, it may gradually subside. This agrees exactly with the course of chronic inflammation, which we observe in external parts; we see it in the eye, in the lymphatic glands, in the mamma, in the testicle, and in the cellular membrane. It takes place rapidly, producing enlargement of the parts, and derangement of their functions; it may continue stationary for a considerable time; it may then terminate in unhealthy suppuration and ulceration, or in permanent induration of the part; or, after resisting for a long time all our remedies, it may gradually subside, without leaving any permanent injury in the organization of the part. I think we have good reason to believe, that something similar to this takes place in the brain; and if this doctrine be admitted, the practical importance of it will be, that we shall be less disposed than we usually are, to consider such cases as depending upon organic disease, and, consequently, not the objects of active practice. The two following cases so much resembled one another in their leading symptoms, that I think it fair and reasonable to consider them as examples of the same disease.

A gentleman, mentioned by Dr Powel, was affected with severe headach, which occurred in paroxyms: during the paroxysms, which often continued for several hours, he had double vision, impatience of light, and at one time muscular twitches and numbness of the left side. The pulse was variable, sometimes a little frequent, sometimes rather below the natural standard. After large and repeated blood-letting, purging, blistering, &c. he was much relieved; but after a short interval of relief, the complaint returned with great violence, and required a repetition of the same remedies. After several aggravations and remissions of this kind, he had at the end of three weeks an interval of ease for more than a fortnight. The pain then returned with violence, and was accompanied by spasmodic affections of the muscles of the neck. He then derived temporary relief from narcotics, and, soon after this, the complaint assumed so much of a periodical character, that it was treated by cin-

chona: the pulse at this time was natural. Under this treatment, the paroxysms became rather less severe, but not less frequent, and they were attended occasionally by convulsive motions, which chiefly affected the right side. The paroxysms were very uncertain in their recurrence; sometimes they consisted of pain only, and sometimes accompanied by those convulsive motions. He died suddenly in a convulsive attack, two months after the commencement of the complaint: for some time he had been considered as better, and sat up for two hours on that day, in the night of which he died. The anterior part of the right hemisphere was found changed in its structure, and rather indurated, and the surrounding medullary substance was softened. When the dura mater was first removed, the part where the disease was situated appeared to rise higher than the neighbouring parts. There was a table spoonful of fluid in the ventricles; the other parts were sound.

A young lady, aged 22, was taken ill on the 20th of February 1817, and, for the first week, her complaint had the appearance of continued fever. In the second week, the pulse came down, and the tongue became clean and moist, while the headach continued severe, with a sense of weight, much throbbing in the head, a look of great oppression, and occasional vomiting. Blood-letting, purgatives, blistering, and the application of cold, afforded partial relief; but, on the 5th of March, the pain returned with great severity, accompanied by violent throbbing, and a degree of squinting. The same remedies again procured an interval of partial relief: The pain was not removed, but it was less severe than in the violent paroxysms; there was constant throbbing in the head, and a look of much oppression; the pulse was generally from 84 to 90. On the 11th, there was a violent paroxysm, followed by convulsion. She was again relieved by bleeding; but, on the 15th, she had loss of recollection, much confusion of thought, difficulty of articulation, and numbness of the right arm, and right side of the face: this was greatest in the face, which had no feeling when it was touched. These symptoms disappeared on the following day. The pain continued to recur in paroxysms, and, about the 24th, had assumed so much of a periodical character, that, by the advice of an eminent physician, it was treated by arsenic. This remedy having occasioned nausea, was given up after a week. She then continued, for a fortnight or more, in nearly the same state, constantly confined to bed, and affected with frequent returns of the pain, but without any violent attack, until the 20th of April, when it returned with great violence, accompanied by vomiting, pain in the abdomen, and double vision during the paroxysm;

the pulse at this time was natural. The same remedies again afforded relief. From the beginning of May, the complaint began to diminish in violence. On the 20th, she was for the first time able to be out of bed; and from that time recovered gradually. Soon after her recovery, a large glandular swelling appeared upon her neck, which has continued stationary through the winter. She is still liable to headach, and throbbing in the head, and requires great care, and the most cautious regimen.

These two cases I am disposed to consider as examples of chronic inflammation of the brain, under that form in which its progress is most slow; in the one, terminating by fatal induration of a part of the brain; in the other by recovery, after an illness of three months. Upon the whole, I think we have ground for forming the following conjectures on this most important subject. 1. That chronic inflammation of the brain exists in various degrees of activity. 2. That in one form, probably the most active, it advances speedily to suppuration. 3. That in another form, probably the least active, its progress is slow; that it leads to certain changes in the structure of the part affected; that, at a certain stage in its progress, there is often formed round it a sac of coagulable lymph; and that the disorder then assumes the character of organic, or hopeless disease; that it may then go on to suppuration, forming an encysted abscess, or that it may be fatal without the formation of this cyst, and without suppuration. 4. That the disease may exist a long time in its first stage, producing urgent symptoms, but without advancing beyond that stage in which there is a chance of recovery. 5. That, though the complaint may not be much under the power of our remedies, it is not on that account to be considered as not being the subject of practice; but that vigorous treatment, by restraining its action, may perhaps prevent it from passing into organic disease, and afford at least the chance of gradual recovery.

In the encysted abscess of the cerebellum, convulsions and paralysis are rare: a very slight convulsive affection occurred once in case 12th. In case 11th, the most remarkable symptom was the loss of the power of swallowing. Many cases of abscess of the cerebellum are on record: I do not find that either convulsion or paralysis occurred in any of them, except in one case by Plancus, in which there was paralysis of one side, and it was in the same side with the disease. * In case 12th, though the disease was in the cerebellum, the principal seat of the pain was in

* Plancus, Storia Medica d'una Postema del lobo destro del cervelletto.

the forehead; and this has been observed in other cases of the same kind.

Inflammation of the cerebellum, like that of the brain, may also exist in a less active form, in which its progress is very slow. The symptoms in these cases are much less marked than those attending similar disease in the brain; and it appears that it may even go on to suppuration without producing any very urgent symptom. A man, mentioned by Dr Douglas, had been for three months affected with pain in the forehead, which generally obliged him to sit with his head leaning forward; he had bad appetite, and disturbed sleep, but no other symptom. He died suddenly in an attack resembling syncope, having been for a day much better, with good appetite, and quiet sleep. An encysted abscess was found in the middle of the cerebellum, and a rupture of the left lateral sinus, which probably was the immediate cause of death. *

3. SUPPURATION ON THE SURFACE OF THE BRAIN may take place under the dura mater, or under the pia mater, or in both these situations. In these cases, it is probable that the matter is formed by inflammation of the membranes; for I think there is no doubt that, in a certain state of inflammation, serous membranes are capable of forming pus. It is not, indeed, an uniform purulent matter like that which is formed in a healthy abscess, but a mixed matter, composed of yellow flocculi of coagulable lymph, combined with a thin puriform fluid. This is the appearance of the matter which is usually met with under the dura mater. The symptoms accompanying this affection vary considerably in different cases. There is pain corresponding to the part affected, sometimes with convulsive motions, and often ending in coma; but sometimes the patient dies suddenly without coma. In case 16th, a superficial suppuration of this kind elevated the fontanelle into a tumour, which was opened without relief, the greater part of the matter being of that thick flocculent kind that could not be evacuated.

A frequent and insidious form of this affection begins with pain in the ear, and may be for some time considered merely as an affection of that organ. Sometimes discharge of matter takes place from the ear; which occurrence is considered as confirming this opinion of the seat of the disease. The suppuration is expected to relieve the pain; but the pain continues—perhaps becomes more violent. The patient is oppressed and drowsy, then slightly delirious, and at last comatose. In other cases

* Edinburgh Medical Essays and Observations, Vol. VI.

there is no discharge of matter; the patient, after complaining for a short time, perhaps one day, of deep-seated pain in the ear, becomes restless and forgetful; lies rolling his head from side to side, or tossing about his arms, and in a short time sinks into coma. The pulse is in some cases frequent, in others natural, and in others below the natural standard, especially after the appearance of coma. The nature of these cases is illustrated by dissection. There is generally caries of the pars petrosa where it forms the ear, sometimes confined to a small spot of it; a portion of the dura mater corresponding to this part is thickened, spongy, or ulcerated, and generally detached from the bone: between this and the brain, there is either a collection of matter, or a deposition of coagulable lymph. Sometimes there is at that part a superficial abscess in the substance of the brain, and, in some cases, there are marks of more extensive disease, with effusion in the ventricles. In a boy, whose case is related by Mr Brodie, there was, in the left hemisphere of the brain, a cyst about three inches in diameter, of a pulpy consistence, thick and vascular, and containing a thick dark-coloured pus. The lower part of the cyst rested upon the petrous portion of the temporal bone. There was a small opening through the cyst, dura mater, and bone, forming a communication between the cavity of the cyst and the meatus auditorius externus. *

This affection appears, in many cases, really to begin in the deep-seated parts of the ear; thence the inflammatory action spreads to the pars petrosa, speedily followed by caries, then to the dura mater, and at last to the brain. It occurs most frequently in persons who have shown a tendency to disease in those parts, as in those who have been liable to suppuration of the ear, or to deep-seated suppuration behind the ear. A very unmanageable abscess is often met with in this situation, from which a probe can be passed to a great depth into the cells of the mastoid process. It is generally a scrofulous affection, extremely tedious in its progress, and sometimes terminates in the manner just alluded to, by inflammation spreading to the dura mater, and inducing coma.

The matter which is formed in those cases, whether in the substance of the brain or betwixt the membranes, sometimes finds a vent by the ear, the dura mater being ulcerated, and the bone perforated by the caries. In this way very alarming symptoms are sometimes unexpectedly relieved. A young lady

* Transactions of a Society for the Improvement of Medical and Surgical Knowledge, Vol. III.

in Edinburgh had lain for three or four days in a state of perfect coma, and was considered as being in a hopeless condition; her medical attendants, paying their visits regularly as a matter of form, were surprised to find her one day sitting up and free from complaint. A copious discharge of matter had taken place from the ear, with complete relief, and she continued well. In other cases of this kind, the relief is but temporary; the patient continues liable to frequent attacks of headach, followed by discharges from the ear, and at last dies comatose. In some of these cases there is good ground for believing, that a communication had existed for a considerable time, perhaps for weeks or months, betwixt the ear, and a diseased surface within the cranium; and that the discharge which was thus afforded to the matter from time to time, had retarded the fatal event. Many cases are on record which render it certain, that, when there is an outlet for the matter, repeated suppurations may take place in this manner in the substance of the brain or on its surface, and the disease go on for a considerable time before it is fatal; and some of them have even at last terminated favourably. They are, however, generally fatal; in some, the fatal event is sudden, like an apoplectic attack; in others, there is a gradual abolition of the faculties, with constant complaint of the head, often accompanied by paralytic symptoms, or remarkable tremors of particular limbs, or with general convulsions.

It remains to be mentioned, that this form of the disease may run its course without inducing coma, and unaccompanied by any symptom that distinctly points out the highly dangerous disease which is going on within. A young man, aged 16, whose case is related by Dr Powel, * had been liable to suppuration of the ear, and deafness. He was seized with a deep-seated pain in the right ear, without fever; some discharge of matter took place from it without relief. Temporary relief was obtained from opiates; but the pain always recurred with increasing severity. The discharge became fetid; but the pulse continued natural, and no other function was affected. On the 7th day of the disease, after a paroxysm of pain more violent than any of the preceding, he sunk rapidly, and died. On dissection, part of the pars petrosa was found carious, black, and crumbling, and contained in its substance fetid pus. The dura mater corresponding to it was black, sloughy, and separated from the bone. Under the dura mater there was a collection of purulent matter and coagulable lymph, amounting to several ounces.

* Transactions of the College of Physicians of London, vol. V.

It covered a great part of the surface of the right hemisphere, and a considerable quantity of it lay betwixt the posterior lobe and the tentorium.

Mr Parkinson * mentions a boy of 14, who had been affected for two months with headach and discharge of matter from the right ear. A week before his death the pain increased, and was accompanied by great debility and exhaustion, giddiness, and some vomiting. He continued in this state, without stupor or any other remarkable symptom, until the day on which he died, when he was suddenly seized with convulsion, and died comatose. An abscess was found in the middle lobe of the right hemisphere of the brain, and another in the cerebellum. There was extensive caries of the pars petrosa of the temporal bone, and effusion in the ventricles to the extent of three ounces.

Persons who have been long subject to suppuration of the ears are particularly liable to this disease. In many cases there is no immediate connexion betwixt the disease in the ear and the internal disease, except that the former marks the tendency to chronic inflammation. In these cases the bone is not affected; and the internal disease may be seated in the cerebellum, or on the opposite side of the brain. I have, in a former paper, described a remarkable case, which began with suppuration of the ear, and terminated by suppuration of the spinal cord. In some cases, again, the attack of internal disease is preceded by a sudden cessation of the discharge from the ear. In such cases, it is probable that the cessation of the discharge is not to be considered as the cause of the internal disease, as has sometimes been imagined, but as an effect of the inflammatory action changing its seat.

A similar disease is sometimes met with in the nose. A person who has been liable to pain in the forehead and discharge of matter from the nose, frequently accompanied by exfoliations of small pieces of bone, becomes at last forgetful and delirious, and dies comatose. The ethmoid bone is found carious; the dura mater corresponding to it is diseased; and there is a collection of pus between it and the brain, sometimes suppuration of the brain itself. Several cases of this kind are related by Lieutaud and Bonetus. Morgagni mentions a priest who, after being affected with fever, delirium, pain of the forehead, and convulsion, fell into coma, from which he was relieved on the 21st day of the disease, by a discharge of purulent matter from the nose. A case exactly similar, in a girl of 14, is related by Man-

* London Medical Repository for March 1817.

getus. We are not, however, warranted to conclude, that, in these cases, the discharge was from the cavity of the cranium; as violent symptoms, such as those now mentioned, have often been known to accompany suppuration in the frontal sinus.

Caries of the bone, connected with internal suppuration, may take place, in the same manner, in any part of the cranium without external injury. Some years ago, a remarkable case of this kind occurred in Edinburgh, in a middle aged man, who, after a short illness, died in a state of coma. In opening his head, a collection of matter was found under the temporal muscle, which communicated through a carious perforation of the temporal bone, with an abscess in the substance of the brain. Burserius mentions a woman who, after suffering for a fortnight severe pain in the left side of the head, was seized with swelling and inflammation of the left eyelids, eyebrow, and cheek; after several days, this swelling suppurated and discharged much matter, and the left eye was found to be blind. After some days she was seized with convulsion, followed by coma, and death. On dissection, the external suppuration was found to have penetrated to the bottom of the orbit, betwixt the bone and the ball of the eye, without injuring the ball itself. There was extensive suppuration of the anterior part of the left hemisphere of the brain, which communicated freely with the cavity of the orbit.

The practical inference from these facts is, that deep-seated pain in the ear is to be regarded as an affection which should be watched with attention. If accompanied with fever and pain extending over the side of the head, it should be treated with activity; if there occur forgetfulness or delirium, the danger is urgent; if it pass into coma, it is probably hopeless. The same observation applies to ulcers on any part of the cranium which lead to denuded or carious bone, or from which a probe can be passed into the cellular structure about the base of the cranium. In some cases of this kind, the trephine has been applied with success; and they have shown us what extent of disease within the cranium may be recovered from, when a free outlet is procured for the matter. Morand * relates the case of a monk who had been for some time affected with discharge of matter from the right ear, and violent pain of the ear, extending over the right side of the head. A tumour formed behind the ear, extending upwards towards the temple, which, being opened, was found to be an abscess, and a probe could be

* Morand, Opuscules de Chirurgie.

passed from it through a carious opening in the cranium. The trephine was applied at that place, and discovered a suppurating cavity within the cranium, which discharged at each dressing a tea-cupful of matter. The discharge diminished gradually, and the sore was healed in two months. The man continued well four years after, when his case was laid before the French Academy.

4. SUPERFICIAL ULCERATION OF THE BRAIN.—When the disease affects the surface of the brain, the symptoms are, in some respects, different from those which occur in the other forms of the disease. A variety of singular spasmodic affections are among the most remarkable symptoms. In some cases they resemble chorea, but generally terminate in paralysis. A man, mentioned by Dr Powel, * was affected with a convulsive motion of the left side of his body, which very much resembled chorea; he was free from it during sleep, and had no other complaint. This affection continued six weeks, and then suddenly terminated in paralysis of the affected side. Soon after this his right hand and arm became convulsed, but in a slighter degree; he then became gradually comatose, and died two months after the commencement of the complaint. On the anterior part of the right hemisphere of the brain, there was a superficial loss of substance from ulceration, two inches in length and about an inch in breadth. It presented an irregular excavated appearance, and a thin layer of curdled matter was deposited in it. There was a similar disease, but much less extensive, on the anterior part of the left hemisphere. There was much fluid in the ventricles. A lady, mentioned by Dr Thomas Anderson, † had been for several years liable to pain in the head, which was most violent at a particular spot near the centre of the vertex. After she had suffered for a considerable time from this pain, she was seized with a convulsive affection of the left arm and leg. It occurred in paroxysms, attacked her several times every day, and generally continued about half an hour at each time. This complaint became gradually more and more severe; the right side became slightly affected in the same manner, and she afterwards became liable to attacks of coma, in which she often lay for 24 hours at a time. She died at last of gradual exhaustion. On the upper part of the right hemisphere of the brain, there was a superficial loss of substance from ulceration, two and a

* Transactions of the College of Physicians of London, Vol. V.
† Transactions of the Royal Society of Edinburgh, Vol. II.

half inches long, one and a half broad, and about half an inch in depth. In the bottom of it there were found some thin laminæ of firm brownish matter, which crumbled into sand when they were rubbed between the fingers.

In cases of this kind, there is reason to believe that the ulceration takes place but a short time before death. The original disease appears to be chronic inflammation, which may either pass into ulceration in a short time, or may induce induration of the part. This induration may then continue for a long time, inducing urgent symptoms, and is often, at last, fatal by suppuration, or may be fatal without suppurating. This state of disease has accordingly been observed in various stages of its progress. A man, mentioned by Dr Anderson, received a violent blow on the back of his head, from the boom of a ship, which fell upon him as he was stooping under it. After some time he had pain in the part, which became gradually more severe, and, after eighteen months, brought on convulsive paroxysms of both upper and lower extremities, the violence of which put an end to his life, after he had suffered from them for several months. Both hemispheres of the brain, on the posterior part, were found inflamed, and much hardened. The diseased parts adhered closely to the dura mater, and to the falx; the dura mater, at that part, was also thickened and indurated. A man, aged 45, mentioned by the same writer, had been for several years liable to convulsive paroxysms resembling epilepsy, but with this peculiarity, that the convulsion was confined to the right arm and leg. The attacks occurred at irregular periods, generally once in three or four weeks, and were succeeded by stupor, which continued about half an hour. Without any change in the complaint, he died suddenly, from an injury of the head. A portion of the upper part of the left hemisphere of the brain was found indurated, and closely adhering to the dura mater, which was at that place much thickened and hardened. Extravasated blood was found in another part of the head, which appeared to have been the effect of the injury, and the immediate cause of death. In a man, aged 35, who had suffered, for several years, from violent pain in the forehead, with epileptic paroxysms, Morgagni found the anterior part of the right hemisphere of the brain indurated, and adhering to the dura mater. Baaderus relates the case of a man, aged 40, who became suddenly epileptic, with pain at a particular spot on the left side of his head. There was an exquisite sensibility of the surface of the left hand and arm, so that the slightest breath of cold air upon them brought on convulsive twitches. After an illness of five years, he died rather suddenly. At the part which had

been the seat of the pain, there was a superficial induration of a portion of the brain, and under the indurated part there was an abscess the size of an egg.

The effect of superficial inflammation of the brain, and its membranes, is illustrated by a case related by Dr Anderson, where the disease took place under his eye. A boy suffered, from an injury of the head, the depression of a considerable portion of the right parietal bone, the depressed portion being forced through the dura mater, and driven inwards upon the brain. He had paralysis of the left side, and the left eye was insensible. The depressed portion being removed, the paralysis was greatly diminished, and the eye recovered a considerable degree of vision. On the third day after the operation, the wound in the dura mater was inflamed, with considerable tumefaction, and immediately the left leg and arm became convulsed; the convulsion being followed by paralysis. The left eye also became again insensible. He had frequent convulsion of those parts, the right side not being in the least affected, for several days, when, suppuration having taken place, all the symptoms subsided. Had this disease taken place, without such an outlet as was in this case afforded to the matter, the suppuration, instead of relieving the symptoms, would probably have induced permanent paralysis and fatal coma. A man, mentioned by Mr John Bell, suffered, from an injury of the head, extensive extravasation of blood on the surface of the brain, which was removed by repeated applications of the trephine. During the cure, which occupied three months, the left side of his brain suppurated five or six times. The attack of inflammation was always accompanied by fever, stupor, and difficult deglutition: These symptoms were removed by the suppuration. These attacks occurred at various parts of the brain. When they were towards the anterior part, he had double vision, which also was removed by the suppuration. When they were towards the posterior part, there was no double vision, but a state of vision in which a candle was seen with a halo round it.

Inflammation affecting the surface of the brain, may either be of that chronic kind, which, after some time, induces induration or superficial ulceration, or it may occur under a more active form, which is speedily fatal. An example of this, in which the disease was fatal in the inflammatory stage, occurs in Case I. An example of it in a more advanced stage is related by Burserius. A girl, aged 16, was affected with acute headach, fever, and vomiting; then became convulsed and comatose, and died on the sixth day. On the upper part of the brain, the cortical substance was corrupted and putrid, and of a leaden colour,

without suppuration. There was no effusion in the ventricles, and the other parts of the brain were healthy.

III. *Disease of the Membranes.*

Cases 13, 14, and 15, seem to be examples of extensive inflammation of the pia mater, the pseudo-membranous deposition being evidently the exudation from an inflamed surface. They were all characterized by severe convulsions, terminating in coma, in one preceded by a sudden attack of headach, in another by vomiting. Case 13 is remarkable, from the long and deceitful interval of apparent recovery, which preceded the fatal attack. Case 15, in which there was purulent matter in the ventricles, seems to have been fatal by the convulsion, without continued coma. In cases 13 and 14, there was deep and continued coma, though in the former there was no effusion in the ventricles, and in the latter but a small quantity. The convulsive affections which attack children, and which are apt to be indiscriminately ascribed to dentition, are, I think, in some cases connected with inflammation of the pia mater. In such cases, instead of the membranous deposition which occurred in these examples, we sometimes observe a thin but extensive coating of a puriform fluid on the surface of the pia mater.

The appearance described in the above cases seems to be rather uncommon. I have only found one example of it in Morgagni. It occurred after an injury of the head; and he describes it as a pseudo-membrane, resembling that which is found upon the pleura after pneumonia. Several cases are described by Fantonus, Willis, Haller, and Bonetus, in which the most remarkable appearance was inflammation of the pia mater, but without exudation. In a case by Haller, it was of a dark red colour, (colore atro-rubro); and in one by Fantonus, 'meninges et præsertim pia, tumentes observantur, cum omnibus inflammationis signis.' The symptoms in these cases were nearly uniform; headach, fever, delirium, watchfulness, and convulsive affections; and some of them present a nearer resemblance to the phrenitis of systematic writers than I have observed in any other disease that has occurred to me in the course of this inquiry. In a case of tetanus described by Lecat, the most remarkable appearance was an evident inflammation of the pia mater, with some appearance of suppuration.

These cases of extensive inflammation of the pia mater were all speedily fatal. But it appears that both membranes are liable to inflammation, more chronic in its character, and more limited in its extent, which may go on for a considerable time, and terminates by thickening of them at particular parts, and

agglutination of the membranes to each other. Many cases of this kind are related by Wepfer, * Willis, and others. Wepfer mentions a young man who had long suffered from intense headach, and in whom the dura mater was found very rough, and united to the pia mater by strong intermediate fibres. Willis † observed, in several similar cases, such thickening and adhesion of the membranes near the longitudinal sinus, as appeared to him to impede the transmission of the blood into the sinus. In a singular case of fatal convulsion mentioned by Mr Howship, the only remarkable appearances were a firm adhesion of the membranes to each other, and to the surface of the brain on the anterior part of the right hemisphere, and a slight projection inwards of a small piece of the frontal bone, corresponding to this spot. The fatal attack, in this case, continued a fortnight, and consisted of frequent convulsive attacks, with loss of recollection. The convulsion was first confined to the left side of the body, and induced, at an early period of the disease, permanent paralysis of the left arm, and soon after of the left thigh and leg. In the subsequent attacks, the right side was convulsed, the left remaining motionless. The muscles of respiration were also much affected: he died suddenly in one of the fits. At a former period this patient had been affected with violent headach, and several convulsive attacks; and, some years before his death, he had suffered an injury of the forehead by a fall from a horse. A gentleman aged 29, mentioned by Dr Powel, after being affected for a fortnight with slight headach, became incoherent, with a considerable degree of stupor, dilated pupils, and indistinct articulation, and died in another fortnight. The pupil of the right eye was more dilated than that of the left; and a short time before death, his right side became paralytic. On dissection, effusion was found in the ventricles, and deposition of coagulable lymph about the pons Varolii. At the anterior part of the middle lobe of the brain, (he does not say on which hemisphere), the pia mater was much thickened, and, on its inner surface, studded with small tubercles like large pin heads. Similar tubercles were found on other parts of it, especially where it lies between the convolutions. A man is mentioned by the same writer, who had been two years insane, and died fatuous. He had been liable, at uncertain intervals, to convulsive attacks, in which the left side of his body suffered more than the right. An adventitious membrane, of the thickness of three sheets of writing paper, was found

* Wepfer, Historia Apoplecticorum.
† Willis, Pathologia Cerebri.

covering the whole right hemisphere of the brain. It became thinner on the lower parts of it, and was gradually lost at the base of the brain. There was no such appearance on the left hemisphere.

It is probable that this inflammatory affection of the membranes may go on in some cases for a considerable time, spreading from one part of the brain to another, and even down upon the spinal marrow, and producing a succession of symptoms, as these parts become successively affected. A lady mentioned by Mr Howship, had severe headach, impatience of light, and paralysis of the left leg and arm. After a short time, the paralysis was removed, but the arm continued so painful, as to be nearly useless. The pain of the head continued, and after two months, extended down upon the neck and back. She had then suppression of urine, severe throbbing pain of the back and loins, convulsive contractions of the shoulders, and a pain shooting through from the back to the breast. She had at last intense pain of the head, neck, back, and whole body, so as to be unable to move a single limb, and died gradually exhausted by the most severe suffering, four months after the commencement of the disease. On dissection, serous effusion was found under the arachnoid membrane, and extensive deposition of coagulable lymph on the surface of the brain, on the upper, lateral, and inferior parts. There was copious deposition of the same kind under the cerebellum, and on the anterior part of the medulla oblongata, which was principally contained between the pia mater and the arachnoid membrane. The same disease was found to have extended along the membranes of the spinal cord.

The dura mater appears to be less liable to idiopathic inflammation than the pia mater. It is, however, affected in many of those cases in which suppuration within the cranium is connected with disease in the neighbouring bone. In such cases, it is usually found soft, thickened, spongy, irregular on its surface, and sometimes eroded. The same appearances have been observed without disease in the bone. In a case of long continued headach, described by Pawius, which terminated by convulsion, the dura mater, under the sagittal suture, was found eroded and perforated. There was also an abscess in the cerebellum. Rumlerus found the dura mater eroded in several places, in a young man who died comatose and convulsed. Several cases of the same kind are related in the Miscellanea Curiosa; and Haller found in several instances the falx eroded by large openings, and the hemispheres of the brain at these places adhering to each other. The dura mater is also liable to gra-

dual thickening, which appears to be the effect of chronic inflammation. A remarkable example of this occurs in case 20, in which the disease consisted of gradual deposition of coagulable lymph between the laminæ of the dura mater. The particular character of the paroxysms in this case, consisting of sudden and transient loss of muscular power, without loss of recollection, is deserving of attention. A case is related by Lancisius, in which the symptoms considerably resembled those of this case. They consisted of paroxysms, which appeared to be a mixture of syncope and apoplexy. There were first attacks resembling syncope, then an apoplectic attack with hemiplegia, then again syncope with convulsion. The pia mater was found remarkably thickened, and covered with a kind of ill conditioned pus. Willis found a remarkable thickening of the dura mater at the base of the brain, in a young woman who had been liable to severe headach, aggravated at the menstrual periods, and, at these times, accompanied by distortion of the neck to one side; she was also liable to vertigo and lypothymia, and died comatose. Similar cases are related by Morgagni.

IV. *Disease of the Bone.*

I find no case in any writer exactly resembling the remarkable affection of the bone, which I have described in case 18. There was a complete destruction of nearly the whole inner table of the cranium, and in its place, a deposition of a soft pseudo-membrane, by which the dura mater was everywhere agglutinated to the diseased bony surface. This remarkable disease had probably been going on for a considerable time. The abscess in the brain was probably recent, and the immediate cause of death. The patient was a respectable married woman, and there seemed to be no ground for suspecting a syphilitic taint. Such a disease is probably to be considered as the result of chronic inflammation of the bone, gradually extending from one part of it to another. Many cases are on record, which illustrate the progress of this most important affection. A lady mentioned by Mr Norris, * after a fall, which produced at the time no alarming symptoms, was affected with pain in the head; it generally fixed with greatest severity in the os frontis, which had been the seat of the injury. On this place, a tumour formed, which was opened three months after the injury, and the bone was found carious. The trephine was then applied, under a belief that matter might be lodged within, but none was found.

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* Memoirs of the Medical Society of London, Vol. I.

The disease was confined to the bone, the dura mater being healthy. A similar tumour formed soon after on the occiput, under which also the bone was carious; after some time, it exfoliated, a piece being thrown off the size of a sixpence; the wound then healed. In this way, tumour after tumour formed on various parts of the head, and went through the same course. For several months, pieces of the outer table only were thrown off; afterwards, the whole depth of the cranium was separated, at each time exposing the dura mater; and from this period, the sores in the integuments did not heal. She died nine months after the commencement of these exfoliations; and on dissection, portions of the skull were entirely wanting, consisting, as far as can be judged from the engraving, of the upper half of the occipital bone, more than a third of both parietal bones, and a considerable portion of both temporal bones. There was not in this case the slightest suspicion of syphilis. A man aged 28, whose case is related by Mr Wathen,† was affected with a swelling the size of a pigeon's egg, on the left parietal bone. It gave him no pain, and continued nearly stationary for a year and a half, when a similar tumour appeared on the left side of the os frontis. These swellings increased, and after several weeks were united, so that they nearly covered the left side of his head. The swelling was colourless, without pain, and solid to the feel; and about this time he suffered some convulsive attacks. Caustic was applied to the posterior part of the tumour. When the eschar separated, the integuments were found to be two inches in thickness, and the bone beneath extremely irregular, sending up sharp bony spiculæ into the tumour, some of which were an inch in length. A similar eschar being taken out from the anterior part, showed the same appearances. Much thin ichorous matter was discharged from the openings, and some pus. He had now frequent pain and fever, with occasional convulsion and delirium; but continued to go about, and could walk many miles. He died gradually exhausted, but retaining his faculties to the last, two years and a half after the commencement of the complaint. On dissection, the whole left side of the cranium was found perforated by numerous openings, between which there were bony ridges, filaments, and processes of a variety of shapes, the sharper spiculæ piercing the substance of the diseased integuments. The two largest perforations corresponded to the seats of the two original tumours; and, corresponding to these, there were two small abscesses in the brain. The inner surface of the

† Medical Observations and Inquiries, Vol. V.

bone was diseased in the same manner as the outer, and the dura mater was connected to it by a soft fungus, which arose from every part of the diseased bone. Morgagni mentions an extensive caries of the back part of the cranium, with remarkable thickening of the dura mater, which originated in a blow, and proved fatal after six years. Hildanus relates the case of a man, on whose cranium a number of tumours formed, from which pieces of bone were discharged, at each time exposing the dura mater. The sores had healed, and the man was alive at the time when the account was written, but affected with perfect paraplegia. Similar cases are related by Portal. In two that were under his own care, and in which he had no reason to suspect any syphilitic taint, the disease was arrested by mercury and antiscorbutics. Cases have also occurred, in which extensive caries existed in the base of the cranium, producing obscure symptoms, which were only explained by dissection. In a young man who died epileptic, after having suffered long from intense headach, Zacchias found the inner table of the occipital bone carious to a small extent, the outer table being sound. A man mentioned by Mr Charles Bell, who had a deep venereal ulcer in the throat, became suddenly paralytic, and after three days died apoplectic. On dissection, the ulcer was found to communicate through the basilar process of the occipital bone, with an ulcer of the medulla oblongata, and this ulcer had opened the basilar artery. A woman mentioned by Saviard, who was received into the Hotel Dieu, in consequence of an injury of the head from a fall, suffered successive exfoliations of both tables of the cranium, to such an extent, that the pieces, when put together, resembled the skull-cap, as it is sawn off in dissection. This process occupied two years, at the end of which she was dismissed in good health, but with the upper part of the brain covered only by integument. Allied to this disease, is a softened state of the bones of the cranium, which is sometimes met with. I believe it has been observed in some cases to continue a long time without making progress; but its tendency generally is to terminate by the formation of suppurating tumours, under which the bone is found carious.

Such are the effects of chronic inflammation affecting the bones of the cranium. It may arise from injuries, or without any apparent cause; its progress is slow, but when once excited, it is impossible to conjecture how far it may extend. Like every inflammation of a bone, it is apt to terminate by caries, or the death of the part: it may spread from one part to another, producing the most extensive mischief—or it may extend to the dura mater and brain, and thus be speedily fatal. Many surgical writers teach, that, in wounds or injuries of the

head, it is the separation of the pericranium or dura mater that kills the bone. But every practical surgeon must have seen cases in which the pericranium was separated without any such consequence following, and others in which the bone became carious though the pericranium had not been separated. In a case related by Dessault, in which death followed a blow on the head after a month, the bone was externally sound, and its coverings healthy; the internal table was blackened through the whole extent of one of the parietal bones, yet the dura mater adhered to this portion as firmly as to the sound bone:—there was suppuration on the surface of the brain. It appears to be the inflammatory action that kills the bone; and this action we have seen may leave the seat of the injury, and spread from one part to another, until its progress is arrested by the powers of the constitution, acting in a manner which eludes our observation, and which is very little under our control. If this view of the subject be correct, it should perhaps diminish our eagerness to meddle with such cases by the trephine, and our expectation of curing them by frightful operations. If symptoms indicate the formation of matter under the bone, this must be evacuated, and a piece of carious bone should certainly be removed when it can be done without violence; but we must remember, that the real disease is the inflammatory action, which may continue to spread, though we may remove these effects which it has left in its progress. Perforations will remove the danger from lodgement of matter, but this danger only; and their other effects on parts, thus prone to inflammatory action, are extremely ambiguous. When matter is formed within, it is probably the effect of inflammation of the membranes, and not a necessary effect of the disease of the bone; and cases are related by Morgagni and others, in which, after injuries of the head, matter was formed betwixt the cranium and the brain, without the least appearance of disease in the bone. It is perhaps a point deserving inquiry, whether too much attention is not sometimes directed merely to the state of the bone; whether we do not waste time in attending to its progress, and in watching the proper period for making perforations—while during this interval an insidious disease is going on within, which will indeed at length render perforations necessary, but which might, by active treatment, be prevented from advancing to suppuration.

A remarkable circumstance in the history of these affections is, the slowness with which the bone falls into disease, and the length of time during which a small extent of disease may exist, producing urgent symptoms, but without making much pro-

gress. A lady mentioned by M. Marechal, after a slight blow on the head, suffered constant pain in the part, often aggravated into violent paroxysms, which the most active treatment had failed to remove. After severe suffering for several years, an incision was made, and a small portion of the bone was found carious. This portion was removed by the trephine, and the patient got well. The disease in this case was probably superficial; and I believe in some similar cases, simply exposing the bone, and assisting its exfoliation, has answered as well as this formidable operation. In other cases of this kind, the disease is from the first confined to the inner table, from which it may, after a long interval, extend inwards, and terminate by fatal disease in the brain. A lady mentioned by Mr Howship received, at the age of 15, a slight blow on the right parietal bone, and for 30 years was liable to severe headachs which were constantly referred to that spot as their centre and principal seat. She then became drowsy, and her vision was impaired, and at the age of 50 she died comatose. At the seat of the injury, the bone was carious on its inner surface, and so thin from absorption as to be transparent:—the brain under this part was of a dark livid colour and much indurated; and this disease extended through the whole middle lobe. In some cases, again, it appears that the disease may be first external, and that it may afterwards leave its original seat, and extend to the internal parts. A boy mentioned by Mr Howship, received at school a blow on the head with a ruler. It was followed by a small sore, which continued to discharge matter for six years. It then healed, and soon after his sight was impaired, and he became epileptic. The trephine was applied on the seat of the injury without relief; he died on the third day after the operation. The bone and dura mater were sound; but the pia mater, under the seat of the injury, 'had evidently suffered from chronic inflammation;' and the brain was much indurated through the whole extent of the middle lobe.

A singular variety of this disease occurs, in which, after an injury of the head, a portion of the bone disappears by absorption, without ulceration of the integuments. A child, aged 9 months, mentioned by Mr Howship, received an injury on the right parietal bone from a fall. There was no wound, and no urgent symptoms at the time: but several weeks after the accident, the pulsation of the brain was distinctly perceived at the place of the injury, and the child became paralytic in the left side. At the age of four years, when the account was written, she had recovered the use of the left side, which had been improving gradually, and was otherwise in good health; but there was still a

considerable deficiency of bone at the place of the injury. When she cried or coughed, this part became tense, and evidently swelled. Many cases have occurred in which tumours on the dura mater have occasioned absorption of a portion of the bone, and have appeared under the integuments.

V. *Disease of the Pericranium.*

Many obscure affections of the head, often accompanied by very urgent symptoms, have been found to be connected with a disease of the pericranium, the history of which presents some very singular phenomena. In the cases related by Sir Everard Home, ‡ the symptoms in general were headach, with various uneasy feelings in the head; a painful tenderness of the scalp at a particular spot, with some degree of swelling or thickening of the integuments at the place. In one, the sight and hearing were considerably impaired; and in several of the cases there were fits resembling epilepsy. They were treated by dividing the integuments and pericranium freely, down to the bone, and then dressing the wounds with lint, so as to allow them to heal slowly, with suppuration. In making the incision, the pericranium was found morbidly sensible and considerably thickened; and in some of the cases indurated, approaching to the structure of cartilage. This treatment was, in some of them, followed by immediate and permanent relief; in others, the patient continued liable to fits or head symptoms upon any excess. In some of them, the incisions healed without any affection of the bone being discovered; in others, a portion of the bone appeared white and porous, or honeycombed, and a limpid fluid appeared to percolate through it, which returned immediately as often as it was wiped off. In one of these cases, the porous piece of bone exfoliated after the wound had been dressed with dry lint for six weeks; the wound then healed, and the cure was permanent. In another, after waiting eight weeks for the exfoliation, he touched it repeatedly with dilute nitrous acid; after which it exfoliated, and the cure was permanent. In one fatal case, he found the pericranium thickened into a mass of a fibrous bony texture, and, corresponding to this part internally, there was a similar thickening and induration of the dura mater. Most of these cases had been treated by long courses of mercury without benefit,—in some of them with aggravation of the symptoms.

‡ Memoirs of a Society for the Improvement of Medical and Surgical Knowledge, Vol. III.

This affection seems to correspond with the disease which has been described by Mr Crampton, under the name of Periostosis. * Among his cases of this disease affecting various parts of the body, there are two remarkable examples of it in the head; the one acute, the other chronic. In the former, a boy of 14, the complaint began with a small angry tumour on the right side of the nose, from which, after some days, a swelling extended along the right eyelids and forehead, with considerable erysipelatous inflammation, and fever. On the 9th day he became suddenly comatose, then convulsed, and died on the 12th. On dissection, the pericranium covering the frontal bone was found red, thickened, and detached from the bone, much purulent matter lying between them. Internally the dura mater was detached to an extent corresponding to the disease without; and a greenish puriform fluid was effused between it and the bone. The inner surface of the dura mater was also covered with pus; the pia mater was red, very vascular, and covered with pus, to the extent of two inches, on the part corresponding to the principal disease of the pericranium. The other case is that of a woman, aged 32, who was affected with a tumour the size of half a walnut over the left parietal bone. It was soft and elastic, and its origin was ascribed to a blow six months before; there was an opening in the tumour by which a probe could be passed down to the bone. She had intense pain in the left side of the head; the right arm was withered and paralytic; both lower extremities were feeble; her speech was indistinct; she had vomiting and frequent epileptic fits. The tumour was divided freely down to the bone; and in doing so the pericranium was found thickened, firm and fibrous, and morbidly sensible. It formed the principal part of the tumour. The bone under the tumour was found rough, and superficially carious. A portion of it was removed by the trephine, and the dura mater under it appeared very vascular and rather thickened. For six days after the operation she had fever, extensive erysipelas of the head, delirium, and convulsions. Suppuration was then established, and all these symptoms were relieved. In the course of the cure a slough was detached from the dura mater. A fortnight after the operation, she had recovered the use of her arm, and was free from complaint.

Tissot † seems to have met with this disease, and to have

* Dublin Hospital Reports, Vol. I.

† Tissot, Epist. Med. Var.

treated it upon the same plan, though he gives a different explanation of the effect of his treatment. He describes a case in which an intense pain was confined to a very small spot, at the posterior angle of the right parietal bone. It had resisted for a long time all the most powerful remedies, venesection, arteriotomy, issues, cupping, &c. He cured it immediately and permanently, by dividing the part down to the bone, and encouraging suppuration from the wound. He ascribes the cure to the division of the subcutaneous nerves. A woman mentioned by Pouteau, received a blow behind the left ear, from the immediate effects of which she soon recovered, but she continued to be affected with pain in the spot for four years. She then had convulsions, paralytic symptoms, inarticulate speech, and a long train of the most urgent symptoms, which sometimes resembled mania, and sometimes tetanus. She had still pain at the place of the injury, where a small portion of the integument was red; and very gentle pressure upon the spot produced convulsion. By a free incision down to the bone, and allowing the wound to suppurate, all these complaints were removed. A boy mentioned by the same writer, received an injury on the crown of the head by a fall, at the age of eight years. A painful feeling continued in the scalp at the place of the injury; and for ten years, he was liable to intense headachs, which afterwards became so violent, as often to occasion insensibility. At the age of 24, there was, at the upper part of the right parietal bone, (the original seat of the injury and of the subsequent uneasiness), a spot which was slightly red and a little swelled; the hair upon it was coarse, and stood out like bristles, and pressure upon it produced intense pain. The pain extended to the right eye, the vision of which was obscured when the pain was violent. By a free division of the parts, every symptom was removed. A similar case is related by M. Gervais, in which the pain returned periodically, and the patient suffered epileptic fits daily. A slight touch on the affected part produced syncope. On dividing the integuments and pericranium, the surface of the bone was found carious; this soon exfoliated, and the patient recovered perfectly. Valsalva has taken notice of a remarkable thickening of the pericranium, in a case of long-continued headach with occasional delirium, and at last convulsion. There was serous effusion in the brain; he says nothing of the state of the dura mater or the bone.

This singular affection, Sir E. Home considers as beginning in the dura mater. Mr Crampton thinks it commences in the pericranium. The latter opinion seems to be the most probable; for in some of Sir E. Home's own cases, it was cured by

simply dividing the pericranium. It appears, however, that, in the progress of the disease, both the bone and the dura mater are apt to be affected.

V. *Disease of the Sinuses.*

I suspect that disease in the sinuses of the dura mater occurs more frequently than we suppose, in connexion with, and probably the cause of, various diseases of the brain. How much diseases of these parts would affect the circulation of the brain, is obvious; and perhaps the condition of them in affections of the head has not been sufficiently investigated. Original deviations from the common size and distribution of the sinuses are frequently met with; but there can be little danger of confounding these with alterations in their area produced by disease; for, in the latter case, there will be the marks of chronic inflammation in the dura mater forming the sinus, a particular part of it being thickened, spongy, fungous, or ulcerated. This was exemplified in case 17, in which there can be little doubt that the original disease was inflammation of the coats of the lateral sinus, terminating by suppuration, and combined with caries of the bone at the spot which seems to have been the principal seat of the disease. In the Queen of Louis XV. who had long suffered from severe complaints in the head, and at last died of dropsy, the superior longitudinal sinus was found obliterated by ossification of its coats.* The subject is worthy of particular investigation.

Sect. IV. Causes and Treatment of Chronic Inflammation of the Brain.

In its least active form, the disease is an example of the pure scrofulous inflammation, which in other parts of the body is often excited by very slight causes, and often appears without any cause that we can trace. On the surface of the body, we see it excited by very slight injuries, which, in a healthy constitution, would produce no bad effect. It frequently follows altered determinations of blood: Thus I have seen suppression of the menses in a young woman of a scrofulous habit, followed immediately by extensive abscess in the mamma. Scrofulous or chronic inflammation also appears in connexion with a variety of febrile complaints, as if the mere febrile state brought it into action. In this manner we meet with it affecting the lungs, the bowels and the glandular parts, in continued fever, and in

* Portal, Cours d'Anatomie Médicale.

scarlatina. These observations apply to chronic inflammation of the brain.

1. It often appears in the course of various febrile diseases, as if the mere febrile action induced it. In this manner, Hydrocephalus may follow measles, scarlatina, and continued fever. I have given a remarkable case in which it followed inflammation of the bowels: it has also occurred in connexion with pneumonia.

2. It may follow injuries; and this, I suspect, is a more frequent cause of hydrocephalus than we are generally aware of, the injury being often slight, and the interval considerable between it and the appearance of any alarming symptoms. A man, aged 40, of a scrofulous habit, was standing on a cart at Leith races, when the horse moving forward he lost his balance and fell out of the cart, striking his head upon the sand. He felt at the time no inconvenience, and for a week attended to his business, but complained frequently of headach. He was then confined to the house from increase of headach, vomiting, and slight fever; after a few days, he became oppressed, then comatose, and died at the end of the second week. All the ventricles of the brain were found distended with serous fluid. A girl, aged 13, fell from a swing, and struck her head with some violence on the ground. From that time she complained of headach, but was not confined, nor was her health otherwise affected, until six weeks after the accident, when her headach increased, and was accompanied by vomiting and frequent pulse. The vomiting soon subsided, and was followed by slight delirium, and this by coma. She lay in a state of coma five or six days, and then died, two months after the fall. All the ventricles of the brain were found distended with serous fluid, without any disease in its substance.

3. *Suppressed Evacuations.*—The most common example of this is suppression of the menses, which in young women of unsound constitutions is frequently followed by dangerous affections of the brain. Such suppression, followed by headach, is always to be considered as a case requiring minute attention. Effusion in the brain, following suppression of urine, or remarkable diminution of this secretion, affords another example of this kind, which presents a most interesting field of investigation. In February 1816, a gentleman aged 70 complained to me that he could pass no urine; he made no other complaint; and on introducing a catheter, the bladder was found to be empty. For six days he continued in this state, keeping the house, but complaining of nothing, except once or twice, when closely questioned, of slight uneasiness in his back. On the 7th

day he had slight confusion of thought and indistinctness of speech. On the 9th he became comatose, and died on the 13th. On dissection, considerable serous effusion was found in the ventricles of the brain; the bladder was empty. Both kidneys contained a good deal of urine. Both ureters were completely obstructed by large calculi, the one immediately at its commencement at the kidney, the other about three inches from the kidney. Similar symptoms follow the proper Ischuria renalis, or suspension of the secretion of urine. The causes of this affection are very obscure. It often appears in connexion with peritoneal inflammation, and sometimes occurs in continued fever. In a remarkable case of it which I saw lately, the only morbid appearances were slight inflammation on the liver, and a remarkable dark gangrenous appearance in the cellular membrane behind the left kidney.

4. Chronic inflammation of the brain often appears in persons affected with chronic or scrofulous disease in some other part of the body. This is called translation of disease; and I shall not object to the term, provided it be used merely to express the fact, that, in persons affected with such disease in other organs, the brain often becomes affected. The most frequent example of this that has occurred to me, is the brain becoming diseased in persons ill of phthisis. A man aged 20 had been for several months affected with cough, expectoration often bloody, hectic fever, night sweats, difficult breathing, increasing debility and emaciation. He was becoming rapidly worse, and was confined to bed, when, on the 18th October, 1818, he had frequent desire to pass urine, which was much diminished in quantity. After a few days, he had severe headach, with impatience of light. After several days more, these were followed by confusion of thought and slight delirium, and these by coma, with dilated pupil: he died on the 28th. From the first appearance of these complaints, the pulmonary symptoms had diminished, and for the last six or seven days the cough had entirely ceased. The pulse had continued about 120. On dissection, much effusion was found in the ventricles and on the surface of the brain. The fornix and septum lucidum were broken down into a soft white pulp. The left lung was a mass of tubercular disease, and contained several abscesses. The right was also tubercular, but not ulcerated. I have seen several other cases of the same kind. In one of them, the head symptoms began about a month before death, with attacks of loss of speech, continuing a few minutes, and accompanied by a sensation of prickling and numbness of the right side of the face. A fortnight after this, he had headach and slight de-

lirium, followed by stupor, which was fatal in another fortnight. The cough had gradually subsided as the head symptoms advanced. In another man, aged 22, who had been ill five weeks with severe pulmonary complaints, the first head symptom was double vision, without headach. He complained of dysuria, and his pulse was irregular. He died comatose after three days; and considerable serous effusion was found in the ventricles of the brain.

In such cases the first disease cannot be considered as the cause of the head affection; it merely marks the tendency to scrofulous or chronic inflammation; and in a habit so disposed, the disease of the brain may be excited by causes which elude our observation. On the same principle, disease in the brain may appear in combination with disease in any other organ, especially in unhealthy children. In such cases, the liver has often been found diseased; and, founded upon this observation, I have somewhere seen certain crude speculations on diseased liver being a *cause* of hydrocephalus.

In regard to the *Diagnosis*, I have already mentioned the symptoms which may be considered as the peculiar indications of a dangerous affection of the brain. But the most important and the most difficult part of the diagnosis is, in the beginning of the attack, and before the appearance of these peculiar symptoms, to distinguish the disease from simple fever. I do not know any symptom that can be relied upon for this purpose. The distinction must depend upon that minute and careful attention to the correspondence of the symptoms which I have already alluded to. Severe headach, with oppression, combined with smart fever, foul dry tongue, and the usual febrile symptoms, *may be* simple fever. The same degree of headach, with slight fever and clean tongue, should be suspected of being an affection of the brain. The remarkably variable state of the pulse which I have mentioned, is also worthy of attention, and I think it does not occur in any other febrile disease. It however is not always present in head affections; and, when it is present, it is often not till an advanced period of the disease.

On reviewing the facts that have been related in this paper, the following pathological principles appear to be fair and legitimate conclusions.

1. That in cases of hydrocephalus, the coma and other symptoms are not to be considered as the direct effect of the effusion, but of that morbid condition of the brain of which the effusion is the consequence.

2. That we have no certain mark which we can rely upon as indicating the presence of effusion in the brain. Slowness of

the pulse, followed by frequency, coma, squinting, double vision, dilated pupil and paralytic symptoms, we have seen, may exist without any effusion.

3. That these symptoms may exist in connexion with a state of the brain which is active, or simply inflammatory; while the disease is the subject of active treatment, and while by such treatment, adopted with decision and promptitude, we have the prospect of arresting its progress in a considerable proportion of cases. The ground of prognosis in particular cases is obvious. The more they approach to the character of acute phrenitis, the prospect of cutting them short will be the greater; and the more they partake of the pure scrofulous inflammation, it will be the less. In all of them, the period for active practice is short, the irremediable mischief being probably done at an early period of the disease.

This leads me to the important question, Has Hydrocephalus been cured? Many cases have certainly recovered, which, in their symptoms, bore the strongest resemblance to it. By some, these cases have been confidently brought forward as examples of hydrocephalus cured, while others have only considered them as remarkable from their singular resemblance to that disease. If the doctrine be admitted which I have attended for in this paper, we shall be able to assume a more precise principle. We shall see reason to believe, that we have no certain mark by which we can ascertain the presence of Hydrocephalus; but that all the usual symptoms of it may exist in connexion with a disorder of the brain, which, if allowed to go on, would probably lead to hydrocephalus, but which, if treated with decision in its early stage, holds out a fair prospect of being able to arrest its progress. Whether the fluid can be absorbed, and the disease cured after effusion has taken place, must ever remain matter of conjecture; but this important principle I venture to state as extremely probable, that, in a great proportion of cases, the absorption of the fluid, if it did take place, would in no respect improve the situation of the patient, as there would still remain that deep-seated and irremediable destruction of the central parts of the brain, which so often accompanies the effusion, and which, without any effusion, may be fatal, with all the usual symptoms of Hydrocephalus. "It was well remarked by an eminent writer, 'dropsy is the effect of a disease, not the disease itself;'—it is strictly true of the dropsy of the brain.

In the treatment, every thing depends upon the remedies being applied at an early period, and in the most decided manner. The remedies are few and simple. Blood-letting, repeated according to the age and habit of the patient, purging, and cold

applications, I consider as those on which our chief reliance is to be placed. The effect of blistering is ambiguous. When it is employed, it should perhaps be on the back of the head and neck. In that situation, it is probably more likely to be useful than on the crown, while it does not interfere with a more powerful remedy,—the effectual application of cold. I have little reliance on mercury. In some cases, a sudden and smart salivation has appeared to be useful; but I suspect it is rather upon the principle of a drain, or counter-irritation, than by any specific operation as mercury. In many cases, especially during the first, or most active stage, the indiscriminate employment of mercury, I apprehend, may be injurious. Still less reliance is to be placed in diuretics; but in the more acute cases, digitalis may be useful, by restraining vascular action. In applying cold to the head in the most effectual manner, it should be done by a stream of cold water directed against the crown of the head, and continued for a considerable time, until the full effect of it be produced. Applied in this manner, it is a remedy of great power; it even requires, in many cases, to be used with discretion. Under its operation I have seen a very strong man thrown, in a very few minutes, into a state approaching to asphyxia, who immediately before was in the highest state of maniacal delirium, with morbid increase of strength, defeating every attempt of four or five strong men to restrain him. The following example of its beneficial effect occurred to me lately: A strong plethoric child, aged about 5 years, after being for one day feverish, oppressed, and restless, fell rather suddenly into a state of perfect coma, without convulsion, or any other symptom. She had lain in this state about an hour when I saw her; she lay stretched out on her back, motionless, and completely insensible, her face much flushed, and turgid. She was raised into a sitting posture, and a basin being held under the chin, a stream of cold water was directed against the crown of the head. In a few minutes, or rather seconds, she was completely recovered, and next day was in her usual health. The same remedy I am in the habit of using, with the best effect, in the convulsive diseases of children.

Under the treatment which I have now mentioned, I have seen many cases recover, which, in all their symptoms, when compared with the fatal cases, might fairly be considered as examples of chronic inflammation of the brain. Many of them were cut short at an early period, when the symptoms might perhaps only be considered as highly suspicious; but others, as will be seen, exhibited the most characteristic symptoms of this

dangerous affection of the brain. I shall conclude this essay by a very few examples of different forms of the disease.

Case I.—Miss B. aged 17, had violent headach, intolerance of light, vomiting, much oppression, approaching to coma; pulse 120; tongue clean and moist. She was treated by general bleeding, which was repeated four times; purgatives; cold applications to the head; and blistering on the neck; and the case terminated favourably, after she had been five or six days in a state that indicated much danger of a serious affection of the brain.

Case II.—A girl, aged 11, had violent headach, vomiting, stupor bordering on coma, dilated pupil, great obstinacy of the bowels, pulse 130. Had been ill five or six days. Purgatives, blistering, and mercury to salivation, had been employed, without benefit. One bleeding from the arm gave an immediate turn to this case. The headach was relieved; the pulse came down; the vomiting ceased; the bowels were acted on freely by the medicines which they had formerly resisted; and in a few days she was quite well.

Case III.—Mrs J. aged 45. After the catamenia had been obstructed for four months, had severe headach, sense of weight and fulness in the head, much oppression, and double vision; pulse was at first 72, but on the following day had risen to 100. On the first day she was bled to ℥xxviij. with little relief. On the second topical bleeding, blistering and smart purging were used; but the symptoms continued unabated. On the third day, another bleeding of ℥xx. gave a turn to the complaint; and in a few days more, with purging and spare diet, it terminated favourably. The last symptom that yielded was the double vision. It subsided slowly, the two images gradually approaching nearer each other; but was not entirely gone for nearly a fortnight.

Case IV.—Miss D. aged 7, had severe headach, impatience of light, stupor, slight delirium, squinting, and great obstinacy of the bowels; pulse 120; tongue at first foul, but became clean after a day or two. The other symptoms continued unabated for a week, during which her situation was considered as hopeless. Strong purging being then produced, she recovered in a few days. Topical bleeding and blistering had also been used. The case might probably have been much shortened by general bleeding.

Case V.—Miss H. aged 11, one of a family in which several had died of hydrocephalus. September 21st, 1817, had severe headach, giddiness, and much vomiting; pulse natural. Topical bleeding, purgatives, &c. being employed, she was rather relieved on the 22d. On the 23d, she still complained of her head, and the pulse had fallen to 60. On the 24th, the pulse fell to 50; there was much headach, great oppression, and dilatation of the pupil. Two bleedings from the arm were now employed with much relief,—the second produced syncope. 25th, Pulse 80 to 90; symptoms relieved. The complaint then subsided gradually under the use of purgatives and cold applications; and at the end of the month she was well.

Case VI.—Miss W., aged 15, had violent headach for several days, with impatience of light, then stupor, squinting, double vision, and transient fits of delirium. The pain suffered paroxysms of violent aggravation, which produced screaming and violent agitation of the whole body, and, at times, a threatening of convulsion. Bowels very obstinate; occasional vomiting; pulse very variable; sometimes extremely frequent, at other times little above the natural standard. This very violent case was treated by repeated general and topical bleeding, blistering, purgatives, and mercury given to affect the mouth. Under this treatment the complaint subsided; but, after she appeared to be well, it suddenly returned with the same violence as before, and was again subdued by the same remedies. In this manner she relapsed five or six times; and at last got well, after the case had been drawn out to many weeks.

Case VII.—Mr L., aged 17. 1st February, 1810, had symptoms of continued fever for a week. The skin then became cool, and the tongue clean; but he had severe headach, with considerable stupor; pulse 100. General bleeding was then employed, followed by purging and mercurial frictions, and, after a few days, the symptoms were alleviated; but there was still much headach, with oppression, and a remarkable slowness of speech.

14.—Stupor increased; pulse 86; tongue clean; skin cool.

16.—Much incoherent talking and unmanageable delirium.

18.—Increasing stupor; pulse 84.

19.—Partial relief, after smart purging.

20.—21.—Stupor increased.

22.—Perfect coma; eyes natural; pulse about 100.

He had continued in this state four days, when, on the 27th, strong purging was induced to the extent of about fourteen stools in the day, with complete relief. On the 28th, there was

some delirium, which subsided in another day. For a week he continued to complain of headach, and weight in the head; but on the 10th of March was free from complaint.

Case VIII.—Miss P., aged 21. July 1815, had symptoms of continued fever, which went on for three weeks. The pulse then came down to 84, and the tongue became clean; but she had much headach, transient delirium, considerable stupor, bordering upon coma; and the pulse rose again to 120. In this state she continued a fortnight, with every appearance of a head affection of the most dangerous character; repeated topical bleeding, blistering, purgatives, and large doses of calomel being employed without relief. The calomel did not affect the mouth, and had very little effect on the bowels. At the end of the fortnight, she was suddenly seized with a copious discharge of blood from the bowels. This continued three days, and left her extremely pale and exhausted, but free from stupor; and the headach was much relieved. In five or six days more she was well.

II.

Additional Observations on the Cure of Syphilis without Mercury. Communicated in a Letter to Dr Duncan junior. By John Hennen Esq., Deputy Inspector of Hospitals for North Britain.

Dear Sir,—I have been enabled to procure, from the Case-books of the 88th regiment, which have been kept with the most praiseworthy minuteness by my friends Messrs Johnston and Bartlet, the enclosed analytical view of the hundred and five cases to which I alluded in my letter in your 54th Number; and I take the opportunity of adding a few more remarks to that communication.

The appearances of the primary sores contracted by sexual intercourse which have presented themselves in the military hospital in the Castle, have varied extremely; but in many instances they have been very much influenced by their *particular position*. The following circumstances have been principally remarked in them. 1st, Ulcers on the external integuments have generally had round callous edges, level surfaces, but little induration of base: they were less irritable than others, became sooner clean, and healed uniformly, but slowly. 2d, Ulcers on

the internal membrane of the prepuce have been generally either superficial or elevated; their surfaces covered with a light-coloured slough, or of a bright red with a villous appearance; their edges either regularly defined, or spread out like excoriations; their bases have been in general but little indurated, but when the ulcers have spread out, they have sometimes acquired a cartilaginous hardness, and have been extremely difficult to heal. 3d, Ulcers immediately behind the corona glandis, have been in general highly irritable; deep, scooped, indurated in their edges and base; foul, with membranous bridles, as it were, running across them; throwing off a perceptible slough, but, if mildly treated, soon healing after the event. 4th, Ulcers on the frœnum have generally followed lacerations of that part; have had considerable induration of base, and have been generally slow of healing. 5th, Ulcers of the glans have been generally excavated, but with little hardness of base, quickly throwing off a slough, and then healing rapidly.

It has sometimes happened that where a sore has spread and occupied different textures, each of its parts has exhibited the character which has generally prevailed in sores confined to that particular texture. Thus, in a sore which has implicated part of the internal prepuce, corona, and glans; on the first spot it has been elevated, on the corona it has been indurated and irritable, and on the glans excavated, but with little hardness. Besides these differences, which have been apparently occasioned by position, ulcers on the organs of generation take on different actions like those on other parts of the body, and are attended with simple purulent, or vitiated discharge; with increased or decreased action, with phagedæna, sloughing, &c. Excoriations also appear, which in some instances proceed from mechanical injury, and in some from the application of an acrid matter, or from the acquired acrimony of the natural sebaceous secretion which lubricates the parts. In all these cases, early attention is a great means of preventing the sores from acquiring an irritable character. Cataplasms, astringents, and stimulants, have all their peculiar merits at particular times, and even the solution of arsenic has been found to give immediate relief from excruciating pain and phagedæna, which had followed great irritation previous to the patient being taken into hospital. In some cases blood-letting, both local and general, has been had recourse to with advantage. In many cases cleanliness alone has effected the healing; but in no instance has the application been of such a nature as to destroy the structure of the parts, and by that means prevent the absorption of the virus. This is shown by the occurrence of secondary symptoms in our hospital, which sel-

dom take place when the primary sores are early destroyed. In all cases, rest in the horizontal posture is an important part of the treatment. Some of the primary sores have gone on rapidly to a cure, some have been more slow, and a few have retained their hardened edges and bases for a long time; the great majority have healed as in ordinary cases, some leaving a pit or scar behind, and some, particularly the elevated sores, have had a scab formed, which on dropping off, has left the parts sound beneath. In many instances, after having healed up, the sores have broken out again without any obvious cause; in others, the friction of the clothes, or rough handling, has occasioned their reappearance; and some on the prepuce have appeared as if mechanically torn open in the effort of uncovering the glans. In all these cases, the healing of the renewed sore was as certainly effected without mercury, as that of the original one.

We have had frequent opportunities of remarking two or more sores of different kinds existing at the same time; an irregular shaped diffused sore; an elevated sore, covered with a light-coloured slough, as if a bit of shamoy leather had been stuck on by some tenaceous substance; a groove or streak along the glans, as if made by a scraping instrument, filled with purulent matter; and the true and perfect chancre according to Mr Hunter's definition, or the true syphilitic ulcer according to Mr Carmichael. * This last has in some cases occupied the glans, in some the prepuce, while the sores of another description have been on the same part close beside it, or on another part at a distance. Three of these cases I particularly selected for examination and public demonstration in the hospital; in one, the Hunterian chancre was on the glans, and a sore without any hardness on the prepuce; in another, it was on the prepuce, and a simple ulcer on the glans; in the third, a most perfect specimen of Hunterian chancre occupied the internal prepuce close to the corona glandis: and at about half an inch from it, nearer the frœnum, but further from the glans, was an elevated ulcer. In all these cases, the Hunterian chancre healed several days before the others.

* To prevent all cavilling about words, I understand by true chancre or syphilitic ulcer, a sore answering the definition given by Mr Hunter in the 1st chapter of the 4th part of his treatise edited by Dr Adams, London, 1810, pp. 314, 326, and repeated by Mr Carmichael, Essay on the Venereal Disease, &c. p. 25. Although the callous nature of the ulcer has been handed down from the earliest writers on the disease, as characteristic, I use the term Hunterian, because the description by that eminent man is more generally known and read than those of the older writers, and is by some supposed to include every possible shade of sore capable of producing syphilis. *Vide* the authors in the collections of Luisinus and Gruner, and the work of Clowes, the first English surgeon who has written on the venereal disease (in 1575); but particularly, *vide* Wiseman.

Soldiers are gregarious in their amours; and we have frequently several men at the same time in hospital, infected by the same woman with whom they have had connexion in very rapid succession; some of them have one kind of sore, some another, and some both. * In all the instances in the following tables where there have been two or more ulcers, if one has possessed the Hunterian characteristics, both the secondary symptoms and the primary sore have been classed under that head. We have been very careful in our endeavours to distinguish the sore that has the hardened edge and base *naturally*, from that which may acquire it by *art*. This can only be done by watching the sore from its very commencement; for there is not the smallest doubt that a sore can be artificially produced by the application of the kali purum to a sound man, which is not to be distinguished from chancre by a person not aware of the circumstance. The hardened edge and base can be perfectly imitated; and the specific distance (as it has been called) of the hardness, can be increased or diminished by the proper management of the caustic.

In primary sores of a complicated nature, the non-mercurial plan has been as strikingly useful as in the more simple. In phymosis, with clustering sores on the point of the prepuce, and concealed ulceration of the glans with hardened edges, where no irritating substance has been employed to occasion them, the success has been uniform; the livid chancre of Mr Carmichael (page 26) has been treated with equal success. In fine, every thing I have seen of the practice confirms me in the possibility of healing primary sores on the genitals, of whatever description they may be, without the employment of mercury; and I have met with nothing to make me question the propriety of making the trial. Of some hundred cases, none have hitherto resisted. In some of these, it is true, I should never have thought of using mercury; but by far the greater number were of that description, that not only I myself, but practitioners of much greater experience, would not formerly have thought of deferring it for a single day. I may, to a certain extent, apply the very same observation to the secondary symptoms that have succeeded the non-mercurial treatment. I have now seen a

* A curious case is given by Vigarbus, which occurred in six young Frenchmen who had had connexion successively with the same woman. The 1st and 4th, in the order of connexion, had chancres and buboes; the 2d and 3d gonorrhœa; the 5th chancre; the 6th bubo.—Vigarous, Œuvres de Chirurgie-pratique Civile et Militaire, Montpellier, 1812; Complication du vice Venerien, page 8.—I have at present an instance of three individuals similarly circumstanced. The 1st escaped; the 2d had chancres and elevated sores; the 3d had gonorrhœa. The connexions took place within an hour.

great variety of them; but I have not yet studied and compared a sufficient number of cases, to enable me to offer such positive testimony to the expediency of abstaining from mercury altogether in this class, as in the former. The facts at present ascertained are these.—Secondary symptoms occur more frequently, and appear at an earlier and more determinate period than when mercury has been used; but they in many cases have gone off as soon,—never, as has been supposed, proceeding from bad to worse, or from one succession of parts to another in unabated violence; on the contrary, they by no means exhibit the same violent and unrelenting symptoms which we have observed in many instances where mercury has been used; the eruptions have not run into ulceration; they have not formed into large scales or extensive blotches; nor have the bones of the nose or of other parts been in any instance affected with caries. I cannot take upon me to assert, that these events *will not* occasionally take place; but, in some hundreds of cases which I have watched with the utmost anxiety, I can aver that they *have not*.

Much remains to be ascertained with regard to the secondary symptoms; but enough has already been proved to demonstrate, that the bounds within which the use of mercury has been confined by Mr Hunter, and by many eminent men since his day, may be still more curtailed, and that we may, in a number of these cases, defer, or limit, or altogether omit, the employment of that mineral. To the phthisical, to the scrofulous, to the maniacally disposed, the fact is invaluable. Mr Carmichael, to whom we owe a great deal, for his endeavours to limit the employment of mercury, has well remarked—'If one drachm was found capable of producing the effect, I should not think of administering an additional grain.' (page 48.) But all practitioners do not act upon this enlightened principle,—a certain number of ounces are supposed necessary for a cure: these are used whether the symptoms have yielded or not, or without ever trying the simple experiment of delay; and although the constitution often sustains the shock, it frequently sinks, and it always is endangered. This is not an imaginary representation; I know that *ounce* daubings have been continued for six, eight, or ten days, within the last five years, by some practitioners high in name; and quantities as great, or greater upon the whole, although more minutely divided, have been used by others: But within the same period, as a most refreshing counterbalance, I know that mercury is not employed to a tenth part of its former consumption, nor in one half the number of cases, by many orna-

ments of their profession. With such a disposition as this, and with the additional lights thrown upon the subject by the trials in the military hospitals, I have little doubt that the *real value* of mercury in syphilis will very soon be appreciated. One gentleman, who has contributed a great deal to ascertain the nature of the diseases produced by that substance, has made an observation with which I shall conclude, and which I conceive is worthy of being inscribed in letters of gold on every Lock Hospital in Europe. 'It is not the name, nor the doctrine, nor the practice, of Hippocrates, or of Sydenham, of Pott, or of Hunter, which should guide us implicitly; but it is the truth, and the result of actual facts, founded on knowledge, and on reasoning, and on repeated experiments, which can alone establish a course of practice, at once safe and efficacious.'—MATHIAS.

I am, Dear Sir, &c.

Queensberry House, May 25th, 1818.

Analytical Return of Venereal Diseases, treated without Mercury, from June 24th to December 25th 1817, *in the Military Hospital of Edinburgh Castle, extracted from the Case-Books of the 88th Regiment.*

PRIMARY AFFECTIONS.

1st, Description of cases that have been treated.					
A Affections possessing the true Hunterian character, viz.	*a* Ulcers only,				51
	b Buboes succeeding to ulcers, viz.	*α* Before admission into hospital,	19	20	
		β After admission into hospital,	1		
		γ Of which were discussed,	16		
		δ Of which suppurated,	4		—71
B Affections, of various kinds, not possessing the true Hunterian character, viz.	*a* Ulcers only,				27
	b Buboes succeeding to ulcers, viz.	*α* Before admission into hospital,	6	7	
		β After admission into hospital,	1		
		γ Of which were discussed,	4		
		δ Of which suppurated,	3		—34
Total number of primary affections treated,					105

Primary Affections. *Continued.*

2d, *Time required for the Cure.*

A.—Of Ulcers.

Hunterian.		*Non-Hunterian.*	
The following number of cases were cured	In the following number of days.	The following number of cases were cured	In the following number of days.
6	5	3	5
7	7	5	7
13	10	5	10
9	14	6	14
14	21	5	21
16	28	7	28
3	40	1	40
3	50	2	85

B.—Of Buboes ending in Resolution.

Buboes succeeding Hunterian ulcers.		*Buboes succeeding non-Hunterian ulcers.*	
The following number of cases were cured	In the following number of days.	The following number of cases were cured	In the following number of days.
2	5	1	5
3	14	1	21
5	21	1	30
2	30	1	35
4	45		

C.—Of Buboes ending in Suppuration.

Buboes succeeding Hunterian ulcers.		*Buboes succeeding non-Hunterian ulcers.*	
The following number of cases were cured	In the following number of days.	The following number of cases were cured	In the following number of days.
1	30	1	75
1	45	1	95
1	50	1	105
1	65		

Secondary Affections.

1st, *Description of Cases treated.*

A Succeeding the Hunterian ulcer.	*a* Eruptions only,	α Tubercular	4	9	
		β Exanthematous	3		
		γ Pustular	1		
	b Eruptions combined with sore throat.	δ Tubercular	1		—9
B Succeeding ulcers not Hunterian.	*a* Eruptions only,	α Tubercular	1	2	
	b Eruptions combined with sore throat.	β Tubercular	1		—2
				Total number of secondary affections	11

2d, *Period of Occurrence, and Time required for the Cure.*

Description of primary affections to which they succeeded.	Case.	Form of Eruption.	Period of occurrence after primary affection.	Time required for the cure.
Hunterian, No.	1	Tubercular.	3 Weeks.	3 Weeks.
	2	Tubercular.	6 Weeks.	10 Days.
	3	Tubercular.	3 Weeks.	6 Weeks.
	4	Tubercular.	6 Months.	14 Days.
	5*	Tubercular.	8 Weeks.	6 Weeks.
	6	Exanthematous.	6 Weeks.	14 Days.
	7	Exanthematous.	4 Weeks.	8 Days.
	8	Exanthematous.	6 Weeks.	6 Weeks
	9	Pustular.	3 Weeks.	18 Days.
Not Hunterian.	10	Tubercular.	4 Months.	5 Weeks.
	11*	Tubercular.	3 Months.	14 Days.

* * These were the two cases in which sore throats occurred. The affection of the fauces was of an aphthous appearance, and yielded to astringent gargles in about eight days. In both cases it appeared along with the eruption.

Extracted by James Bartlett, *Assist.-Surg. 88th Regt.*

III.

On the Connexion between the Symptoms of the Fever which prevails at present in Glasgow, and a Morbid Affection of the Brain and Spinal Marrow. By JAMES SYM, Surgeon in Kilmarnock, and lately House Surgeon to the Glasgow Royal Infirmary.

THE contagious fever, which has of late prevailed so much in Glasgow, has afforded ample opportunities of examining, after death, the morbid changes produced during the progress of the disease. The brain and its membranes having attracted principally the attention of dissectors, the appearances they present have been frequently remarked, and are now pretty generally received as the only peculiar effects of the fever. Still they are found so inadequate to explain several prominent symptoms, that most medical men regard those dissections with indifference; having lost hopes of ever discovering such vestiges of the disease, as will either furnish a satisfactory theory, or suggest improvements in the mode of treatment.

It would be the highest presumption in me to flatter myself with the idea that I had supplied this *desideratum*. I make no such pretensions; but I believe I have detected one morbid change, which was not previously ascertained, and which serves to explain a few symptoms, in addition to such as may be referred to the brain. Hints have been occasionally thrown out, that the spinal marrow may be affected in many diseases, which had not formerly been supposed to have any connexion with it; and, if I mistake not, some person has mentioned typhus along with a number of others. No arguments, however, have been brought forward in support of such an hypothesis, either from the symptoms of the disease, or from the inspection of dead bodies; and, therefore, it can only be regarded in the light of a vague conjecture.

I was led to engage in this investigation, while conducting the dissections during the last twelve months in the Glasgow Royal Infirmary; and after having examined a great number of cases, —sometimes opening the vertebral canal, but generally satisfying myself of the presence of serum, by causing it to flow from the spine into the occiput, I now venture to lay the result before the public. The reasonings are such as have occurred to me, and may perhaps be thought puerile or overstrained; but the facts are described from observation; and if more satisfactory conclusions shall be deduced from them by other speculators, I shall not repent of my labour.

In the course of the present fever, we often meet with symptoms, which lead us to suspect the existence of acute inflammation in particular viscera of the thorax or abdomen; and yet we are unable to detect the slightest traces of it in our dissections after death. Sometimes redness of a portion of the pleura, serum effused into the cells of the lungs, and depositions of coagulable lymph on the surface of the intestines, prove that the local symptoms have depended on visceral inflammation: But, in far the greater number of cases, such appearances do not present themselves; and when they do occur, they are generally so trivial and immature, as to be inadequate to account for the severity of the symptoms with which they are associated. Those affections cannot, therefore, be accounted characteristic of the disease in general. They seem rather to form accidental additions to it, than to constitute a regular part of it; and they often demand a mode of treatment so unsuitable to the other indication, that it would have been hazardous, independently of their presence. * Hence, in examining the bodies of patients who have died of fever, we are left to search elsewhere for the peculiar traces of that disease.

As the symptoms which may be referred to the brain and spinal marrow, and which entitle the fever to the appellation *nervous*, are the most uniform in their occurrence, we are naturally led to inspect the condition of those organs after death. In prosecuting this inquiry, we are occasionally disappointed in our expectations; but the cases in which there remain distinct vestiges of a diseased action along the continuous origin of the nerves, preponderate so much over those in which none have been detected, that I have little hesitation in enumerating, as the peculiar effects of this fever, the following morbid appearances.

Although the dura mater, in general, seems to be pretty sound, so far as can be ascertained after death, yet we now and then find it inflamed, particularly in the vicinity of the longitudinal sinus.

On removing that membrane, the veins of the brain are seen more or less turgid with blood; and there are commonly many small red twigs ramifying over the pia mater. These give the surface an inflamed appearance, being apt, from their florid

* During the spring of 1816, several patients were seized, at an advanced stage of the fever, with symptoms of pneumonia, which terminated so rapidly in effusion, that it baffled every kind of treatment, and was uniformly fatal.

colour, to be mistaken for arteries; but when we force the blood out of them, and afterwards press upon the neighbouring veins, they are immediately filled again,—which shows that they are venous branches.

In the angles between the sides of the veins, and the convolutions of the brain, there is almost always found a considerable quantity of serum, and sometimes, though rarely, a little coagulated lymph. The quantity of serum is often so great, that after the dura mater has been removed, the whole surface of the brain seems to be covered over with vesicles, and on puncturing the tunica arachnoidea, the serum trickles along in profusion. This, I believe, is the most constant of all the morbid appearances that are to be met with in dissecting fever cases.

After cutting away the upper part of the hemispheres, the centrum ovale becomes dotted with a greater number of small drops of blood, and the substance of the brain feels wetter than in its healthy condition.

In the greater number of cases, we find from half an ounce to two ounces of serum in the lateral ventricles; and in the remaining cases, there is usually a considerable quantity, although not enough to impede, by its pressure alone, the functions of the nerves.

On turning out the brain and cerebellum, we generally find, in the hollow of the occiput, about an ounce of serum, which seems to have flowed from the spinal canal; and, if the body be elevated in such a manner as to favour the escape of a fluid through the occipital foramen, we in almost every instance obtain a large quantity from between the spinal marrow and its sheath.

When the body is placed prone, and the canal of the third and fourth lumbar vertebræ, which in that posture are the lowest, is laid open by sawing through their transverse processes, and removing the posterior part of the tube, we commonly find the dura mater distended by a fluid; and, on slitting it up, the cauda equina is seen floating amongst serum. From one to five ounces are obtained from this source; and, if we trace the divisions of the spinal marrow through the foramina, where they form the origins of the sciatic nerves, we find, that the prolongations of the dura mater, which constitute their tunics, likewise contain serum.

These morbid appearances certainly justify the conclusion, that there has been, in most cases, an inflammatory action along the brain and spinal marrow; and, therefore, without attempting to determine, whether it is essential to the fever, or merely an almost uniform concomitant, I shall now proceed to point

out the relation it seems to bear to some of the most prominent symptoms.

When we write down the histories of a number of fever cases, from the spontaneous accounts of the patients themselves, without putting any questions which could bias their descriptions, we usually find, that the most urgent symptoms have, at an early stage, been headach, and pain in the course of the spinal marrow, particularly at the lower part of it, where it splits into the cauda equina, and gives off the origins of the great nerves of the lower extremities. Were it on * muscular inflammation that this pain depended, we should expect to meet with the vestiges of it, in examining the muscles after death. Yet neither increased vascularity, swelling, nor suppuration, can be detected amongst them, even where the pain has been most acute; whereas, the consequences of an increased action of the vessels of the spinal marrow are so unequivocal, that I cannot help referring the pain entirely to that source.

That the headach is connected with the same arterial excitement, from which the effusion of serum over the surface of the pia mater has resulted, appears pretty obvious from the progress of the symptoms. The pain is commonly dull at first, and gradually becomes more and more severe, till the arteries of the head begin to throb violently; the face becomes flushed, the eyes red and impatient of the light, the pupils contracted, the brows knit or the eyelids firmly compressed, the hearing acute, and all the senses fastidious of their usual stimuli. The mind of the patient, at the same time, becomes affected. He is rendered watchful, irritable, incapable of application; and his thoughts are subject to all the degrees of disturbance, from a slight wavering, and the most tumultuous frenzy. In short, if these were the only symptoms of the fever, we should be more apt, in violent cases, to account it, during its middle stage, an attack of phrenitis, than a disease of a typhoid character.

Other symptoms, however, which seem to depend on a deranged action of the nerves arising from the spinal marrow, occur at the same time, and modify the features of the disease. There is a sudden loss of power in all the muscles; the patient has a sensation of uneasiness over his whole body, which he is

* The muscles of the loins are supposed to be most liable to be affected with pain, because they have the greatest weight to sustain. But the pain also extends along the upper parts of the spine; and I have seen three members of the same family labouring at one time under fever, in all of whom the most prominent symptom was pain in the back of the neck.

unable to describe; he is fatigued; and muscular exertions become as irksome to his feelings, as their natural stimuli are to his organs of sense. The pain shoots from his back along his lower extremities, and diffuses itself slightly over his whole body, becoming less acute as it recedes from the spinal marrow, and changing into a general soreness or sense of bruising. There is a simultaneous derangement in the functions of all the viscera, however remote from each other in their situations, and distinct in their offices. The stomach cannot retain its food, or at least cannot digest it. The bowels become costive; the stools morbid; the urine high coloured: the mouth parched with thirst; the skin hot; and the respiration and motion of the heart hurried to twice their usual frequency. When several organs, which do not communicate directly with each other, have their functions thus impaired at the same instant, it is difficult to avoid concluding, that the common source of those nerves, by which they are all supplied with energy, has ceased to perform its duty in a healthy manner.

After the symptoms of over-excitement have begun to subside, those which intermingle with them, and gradually supplant them, bear an equal reference to the common centre of the nervous system. We have then to encounter an excessive depression of strength, resembling a degree of universal paralysis more than simple debility. There is a strong tendency to coma; the pupils become dilated; the eyes squint; * the hearing is impaired; all the senses are torpid; the pulse intermits, or becomes irregular either in strength or frequency; the limbs are affected with convulsive twitches; the bladder is paralyzed; † all the sphincters are relaxed; the cellular substance of the hips dies; and the feet and legs become cold, and fall into gangrene, in the same manner as when the principal nerves are compressed by a ligature. When such symptoms crowd upon our view, after those I have previously mentioned, we easily recognise the natural termination of a high arterial action along the brain and spinal marrow. The symptoms differ so much from debility proceeding from a lingering disease, that I think they must de-

* One young woman had double vision, giddiness, and a constant shaking of her head, long after the fever seemed to have run its course; and those patients to whom the largest quantities of stimuli have been administered during the disease, frequently continue to have irregularities of their pulse during the whole of their convalescence.

† Four ounces of serum were found within the lumbar vertebræ of a patient who had been affected with retention of urine for the last three days of his fever.

pend, in a great measure, on the pressure of that serum we so uniformly meet with in our dissections.

The effects of particular modes of treatment which have been successfully adopted in the lowest stages of fever, show likewise that the debility is very different from that which results from phthisis, extensive abscesses, necrosis, or any other disease that wears out the strength by slow degrees. When a patient appears to be sinking rapidly under a fever, he is more effectually roused by a brisk cathartic than by the most powerfully stimulating medicines one can venture to administer. So many nerves ramify on the surface of the intestines, that the action of cathartics on their extremities seems to give a salutary impulse to the spinal marrow from which they chiefly arise; and by thus exciting the nerves from the state of torpidity into which they had sunk, it invigorates the whole system till the absorbents gradually remove that serum to which the greater part of the depression of strength ought probably to be attributed. A patient, enfeebled by a lingering disease, would die under the powerful operation of such doses of calomel and jalap as prove refreshing to one whose strength appears to be equally reduced in consequence of fever. Purgatives are usually exhibited as antiphlogistic remedies; and in most diseases they debilitate: But here they have the effect of tonics; instead of exhausting, they recruit, the declining strength of our patients. On the same principle, blisters, by irritating the extremities of the intercostal nerves, are found serviceable when applied over the thorax in advanced stages of the fever.

There is no doubt some difference between the symptoms of the last stage of fever and those which might have been expected to result from simple pressure on the brain and spinal marrow. The weakness cannot be entirely owing to this cause in a patient who has been labouring ten days under a violent disease. Much of it must be assigned to the preceding over-action, and to want of nourishment; and, being thus complicated, it is the more difficult to manage. Stimuli are generally, to a certain extent, advantageous; but a moderate quantity of wine, along with smart purgatives, supports the strength more effectually than a profusion of whisky and ether, poured into a patient whose bowels have been merely kept regular by mild laxatives. In the latter case we are encouraged by the momentary excitement arising from each dose of the stimulus, to increase the quantity to an extravagant amount. The pulse seems, at every augmentation, to gain strength; but the system does not revive on the whole. The symptoms of oppression advance progressively; and while

we make the pulse our only guide, and combat pure debility as our only enemy, our patient dies in a state of coma.

Kilmarnock, April 16th, 1818.

IV.

Account of a Singular Rheumatic Affection, of an intermittent Type. By NATHANIEL RUMSEY, Member of the Royal College of Surgeons of London.

IT has ocurred to me several times in my practice, to observe a singular rheumatic affection, of an intermittent type, of which the following is the best account that I am able to give.

Several years ago, after recovering from a sore throat, which got well without producing suppuration or slough, I became ill from exposure to cold. Fever came on in the afternoon, with a violent pain in the abdomen, a great sense of distention, and actual enlargement, with great flatulence. My own sensation was, that nothing would give relief but evacuations. An enema was given with little or no good effect; yet, in the course of a few hours I fell asleep, and awoke in the morning almost well, not expecting any renewal of disorder. But on the next evening I found myself suffering again precisely in the same manner; obtained little or no relief from the injection, which I repeated, feeling as if nothing would relieve my pain but evacuations. Again I became well in the night, and was in the morning without fever or complaint. In the ensuing afternoon, at the usual hour, I was attacked, for the third time, with fever, my bowels were inflated, hard and full, and aching in the most distressing way. I began to suspect that the complaint was intermitting rheumatism, especially as I had many times had the most painful intermitting face-achs, which always gave way to bark. I had recourse to this remedy in substance; and, to my great satisfaction, escaped the paroxysm on the following day. My speedy recovery convinced me that the attack was intermitting rheumatism, and not inflammatory, as might, with reason, have been suspected.

I thought it a remarkable fact, not aware that rheumatism affected the muscles of the abdomen in this way, and still more remarkable, that, by their vicinity to the bowels, without any

intelligible or direct communication, the viscera should be also affected, as the flatus and distention proved.

Had I not had the advantage of a minute knowledge of every circumstance of constitution, previous susceptibility, and the very pain itself, I believe I should have been less confident of the true nature of it.

Within a year or two of this occurrence, a lady, unaccustomed to much exposure, went, in the night, to visit a dying relation, and returned in an open carriage, travelling along a watery lane for a considerable distance. The exposure brought on an illness, which continued some days before any decided opinion was taken up respecting the nature of it. When it became more clearly defined, assuming the type of a quotidian ague, the paroxysm being accompanied with distressing pain in the abdomen, I had recourse to the bark largely, in substance, and found in its effects a satisfactory confirmation of my opinion, that the muscles of the abdomen were sometimes the seat of intermitting rheumatism, accompanied with other symptoms, not unlike those of abdominal inflammation.

This opinion met with a stronger confirmation in the occurrence, during the last month, of the following case. Mrs W——r, about 30 years old, had a sore throat, with some inconsiderable sloughs in it. After some days, without any remarkable occurrence, it got well, and, within a day or two, she was much troubled with face and toothach. The pain was very acute, intermitting and returning once in the day, by a sudden accession. The use of the bark was begun; but producing a violent sickness and fainting, was discontinued. With warmth, and the use of wine, she soon lost the pain, and, except that she was weak, had for a few days no disease. Not many days had elapsed, however, before she complained of pain in the lumbar region, leading round the abdomen, and producing actual enlargement, as well as a distressing sense of fulness and flatus. It continued two or three hours, and then left her easy. The night and following day were free from pain, until 5 o'clock in the evening, at which hour it returned severely, affecting the intestines by distention, producing restlessness, irritability, and feverish quickness of pulse. I witnessed the same daily paroxysm, followed by its interval for five or six days, with the variation of observing a later hour, and being weaker in its attack.

The former disagreement of bark had given a dislike to the trial of it again. A bitter infusion, with amm. carbonat. was ordered, but continued with too much irregularity to have had any share in the recovery. Wine and other cordials were used in an increased quantity: The disease went off, and immediate recovery took place.

In this part of the country agues are extremely rare; but it is not uncommon to see violent pain of the head, face, or teeth, assuming a regular type, and generally quotidian. The cinchona, in most instances, speedily puts a stop to it. *

I had practised upwards of ten years before I was aware that the muscles of the abdomen were liable to the same painful intermitting affection as I had frequently known to disturb the head and teeth; and, probably, had I not been a sufferer of the former myself, I might not have detected the true nature of it; because, in affecting them, it produces some symptoms common to inflammatory affections of the contents of the abdominal cavity,—circumstances which would dispose the mind of a practitioner to be very reluctant in forming the opinion which observation leads me to think justified. Since the first case, which happened about three years ago, I have met with it twice, if not three times; and hence am led to think it may not be a very unfrequent disease. As it may not be the lot of other medical men to be brought to the knowledge of it by the same circumstances which I had the advantage of, I am tempted to request the favour of a place in your valuable Journal for these facts and opinion; and shall be highly gratified if they should form a useful hint to those who have not noticed the same modification of disease, or should draw from such, as have had much experience in aguish districts, any confirming communications.

Beaconsfield, March 4, 1818.

V.

Case in which the Nasal Operation has been recently performed. By A. Copland Hutchison, late Surgeon to the Royal Naval Hospital at Deal, Surgeon to his Royal Highness the Duke of Clarence, and to the Westminster General Dispensary in Gerrard Street, Soho. Communicated by Sir Gilbert Blane, M. D. Bart.

Gentlemen,—I beg permission briefly to notice to the profession, through your useful Journal, that I have lately

* In one instance of intermitting rheumatism of the head, extending to the teeth, I had an opportunity of witnessing an increased redness, enlargement and tenderness of the gums and mouth, so as to leave no doubt of the existence of inflammation of those parts. The attack yielded with the usual readiness to the exhibition of bark, and the inflammation disappeared with it.

performed the nasal operation with success, according to the plan recommended by Mr Carpue, in his work on that subject. Although I have at present nothing particularly new to offer on the occasion, yet, as the operation is still in its infancy, this being but the third or fourth case in which it has been done, I deem it sufficiently important to be recorded, as an encouragement to other surgeons to undertake the like.

The subject of the operation is a married woman, aged about 32, a charity patient, who had lost every part of her nose, including even the nasal bones, about eight years ago; and, as far as I can learn, from gangrene succeeding to an attack of erysipelas of the face. She has given birth to four legitimate children, two of whom are now living; and I believe her to be a very respectable woman, so that there does not seem to be any reason to question her statement as to the cause of the deformity.

The operation was performed on the 5th ultimo, in the presence of several professional men of eminence in this town, and completed, without its being necessary to tie one blood-vessel. A needle and ligature was passed through the upper lip and new septum, and two on each side of the nose, to retain the newly cut surfaces in contact.

On the second day, previous to the dressings being removed, a slight hemorrhage occurred from the posterior or internal surface of the new nose, the blood escaping by the mouth. The stitches were cut away on the sixth day; and, on the eleventh from the operation, there was external hemorrhage, to the amount of about thirty-three ounces from the right angular artery, but which stopt spontaneously. The blood issued from the very part whence the stitch had been removed, so that the bleeding in this instance must have been caused by ulceration of the coats of that small vessel.

Every part of the nose externally is now cicatrized; the wound on the forehead diminished to the size of a shilling; and the nostrils are kept pervious by the introduction of sponge-tent, or plugs formed of dossils of lint. The patient, by this simple operation, is thus rendered a decent-looking woman; but what is of more consequence to her, she will henceforth be better enabled to assist in providing for the wants of her little family, by finding that employment which her hideous deformity before had prevented her from obtaining.

Spring Garden, London, 4th June, 1818.

VI.

On the Mode of performing Arteriotomy. By CHRISTOPHER KANE, Member of the Royal College of Surgeons, London.

THE general treatment of acute ophthalmia, is already too well known to call forth any observations from me, it having long since been decided, that depletion,—excessive depletion, is the only means of arresting its progress. The modes of carrying this decision into effect, are certainly different; but that difference exists alone with those whose opportunities of treating the disease have not been manifold. It has fallen to my lot, while serving on the medical staff of the Mediterranean army, during the late war, to witness the superior results of arteriotomy to venesection, in ophthalmia, in which statement I dare say I shall be supported by all my contemporaries on the station; but the good effects of that operation were hitherto counteracted by the clumsy practice of applying a compress near the seat of inflammation, which is a process as baneful to the cause of science, as destructive to the patient; for it is well known, that any extraneous body applied to the region of that disease, excites those torments we should allay. In order, then, that this erroneous and cruel practice should be discontinued, I have assigned myself the simple and pleasing task of stating, through your medium, how the operation of cutting the temporal artery was performed at the Detachment Hospitals of Palermo, Genoa, and I believe throughout the various hospitals of the Mediterranean.

The operator having shaved off a necessary portion of the hair surrounding the trunk of the artery, is not to employ the use of black-lead pencils, (as is taught), to indicate the precise point at which he is to make the incision, for that is totally useless; but, after having decided as to the profundity of the vessel he is to wound, is to cut immediately down upon it. A small portion of the artery is commonly laid open by this incision, and the blood escapes, though not in sufficient quantity or compass, to obtain the *sudden* depletion which is so necessary. The operator is then to press with the thumb or index-finger of the left hand on the trunk of the artery; and after having sponged the wound from the coagulum which may be formed, he is, with a delicate hand, to enlarge the orifice, if he have already made any, in the vessel, through the *partial* division of which the

blood will be ejected in a stream to some considerable distance. The free discharge is occasionally impeded by coagula, to obviate which the wound must be frequently cleared with a sponge and hot water; and should the column of blood be diminished or arrested in its progress, it is to be renewed by *snapping* the finger and thumb against the parts covering the trunk of the artery. After the sufficient abstraction of blood, or the exhaustion of the patient, the operator is to press as before on the trunk of the vessel, and effect its complete division at the part already partially divided. He is then to tie its main portion, cut both ends of the ligature *close to the knot*, and heal the wound by the first intention.

This operation is very delicate, and at first difficult; but this should not deter young surgeons from its practice. Although they fail at first in executing it with that nicety to be desired, they will find, by practice, that the difficulties attending it are very soon surmounted, and that it is to be performed even without exposing the patient's apparel in the slightest degree to be soiled. An erect position, in this as in other modes of abstracting blood, is to be desired; for which purpose, after the partial division of the artery, the patient may be placed against the wall. This operation should always be resorted to in cases of the ophthalmia, phrenitis, apoplexy, fractures of the cranium, concussions, and all other affections of the brain, especially mania, where blood-letting is required; but it is to be regretted, that in cases where it would prove of the utmost service, its use is discarded, on account of its apparent inconvenience and difficulty. By the temporary suspension of nutrition to the smaller and minute vessels restored by anastamosis, effects are produced on local diseases, too evident to require the assistance of words to describe; and it may be a fair consideration for the speculative mind, whether the effects of weakening the power of the arterial, may not be more decisive than those of impoverishing the venous system.

The section of the temporal artery is not exposed to any of those results which accompany brachial venesection; and in a case of urgency, such as a sudden fit of apoplexy, where a scalpel cannot be obtained, it may readily be performed by a common lancet, a razor, or a penknife. The first incision should always be made as far from the trunk of the artery as possible, by which precaution, the patient, (should a second operation be rendered necessary), is saved the unpleasant feelings which would accrue from wounding him on the opposite side, while the effects of the first operation were still manifest.

Having witnessed, in an extensive practice, the advantages of

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the application of Leeches. By D.
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NICHOLLS, æt. 43, of a thin spare habit, rather intemperate in early life, was attacked, on the 26th of September, with a dull, heavy, throbbing pain in his left ear, which prevented sleep, and was much increased on lying down or standing; sometimes the paroxysms were insufferable, at less violent, but the patient was never free from pain and throbbing; the spasms generally extended from the meatus auditorius externus to that plexus of nerves which covers the cheek, called pes anserina, over the zigomatic arch, through the left eyeball, following the course of the frontal nerve: the left temple and parietal bone were not exempt from pain. His medical attendants kept his bowels open, applied a blister behind his ear, and used fomentations to the affected part; notwithstanding these means the pain continued unabated. On the 16th of October something broke in the canalis meatus, at first discharging a bloody matter, afterwards good pus, copious in quantity. The patient's friends and attendants supposed this circumstance would put an end to his distressing sufferings; but the darting megrim continued the same.

On the 25th of October he sent for me, when I saw him much reduced by his penile malady. His appetite bad; bowels not open, except by laxatives; tongue furred; skin temperate; pulse 94 and soft; urine scanty and high-coloured; cannot bear to look at the light, as it causes much pain. On examining his ear I found good pus copiously issuing therefrom. He complained of a dull heavy pain, with a constant fulness of and pulsation in his left temple, ear, eye, and jaw, which was much increased after eating, or on observing a horizontal posture: this prevented going to bed for near five weeks.

℞. sapon. ʒss.
antim.
mph. ā ℈j.
℈ij. divid. in pil. xxiv. Capt. ij. nocteque mane.
ηp. lyttæ nuchae.
ηular. detrah. sang. ʒviij.
with warm milk and water, and a white
plied every night and morning; a tea-spoonful
ng mixture was added to the poultice.
ulv. opii j.
Vin. Thebaic. ʒiij.
Mucil. gu. acaciæ. M.

Sunday, 26th.—Had some sleep during the night. At 5, A. M., had an acute pain in his left temple, and over the eye, which continued an hour. Blister answered well; tongue furred; pulse 78; had no evacuation since Friday.

℞. Magnes. sulph.
Syr. rham. bacc. ā ʒss.
Aq. menthæ p. ʒij. M. ft. haust. statim sumend.

27th.—Passed an easy night. Opening medicine produced five evacuations of a dark colour; pulse 70 and soft; skin temperate; urine more copious; pulsation and pain the same.

Tuesday, 28th.—Slept during the former part of the night. At 5, A. M., had a violent paroxysm, which continued near an hour. To relieve this excruciating pain, dry friction was tried, which only increased it; relief, however, was afforded by bathing the parts with warm vinegar and water. Bowels open. Applic. hirud. xij. tempor. Contin. pil.

℞. Pulv. jalapii ʒij.
Pulv. potass. sup. tart. ʒj.
Conf. sennæ ʒiss.
Syr. rham. b. q. s. ut ft. elect. Cap. coch. parv. nocteque mane.

29th.—Slept several hours in the night; had less pain and pulsation since the application of the leeches; had two evacuations; urine copious, and of a paler colour; pulse regular; appetite improving.

30th.—The pain returned in the left side of his head, eye, ear, and jaw, at 5, A. M., but not so violent, nor did it continue so long as on Tuesday; bowels open; tongue furred; ear and blister still discharging copiously. Elect. cont.

Applic. hirud. xv. temp.

Friday, 31st.—Had several hours sleep in the night; pain still continuing in the parts before mentioned; feels more comfortable than yesterday.

Nov. 1st.—Went to bed at twelve o'clock last night, (the first time for five weeks), and slept till six in the morning, when he awoke much refreshed; pain abated; pulsation in the head not so violent; tongue furred; bowels not open.

Repet. haust. statim sumendus.

Sunday, 2d.—Slept eight hours in bed last night; pain less; pulsation still remaining; tongue cleaner; appetite good; bowels not open.

℞ Magnes. sulph. ʒvj.
Syr. rham. b. ℥ss.
Aq. menthæ pip. ℥iij. M. stat. sum.

Monday, 3d.—Bowels open several times yesterday; had a comfortable night; feels the pain at times; pulsation the same; tongue cleaner; appetite good. In the evening, the pain came on very severe.

Applic. hirud. xv. temp.

4th.—Leeches answered very well; had an easy night; pain relieved; a copious discharge from the ear and blister; bowels open.

Elect. cont.

5th.—Passed a comfortable night; able to lie on his right side for the first time since taken ill; bowels open.

Saturday, 8th.—Poultice discontinued; sleeps well by night; appetite good; bowels moderately open; pulsation nearly gone; pain only felt at times; his strength gradually increasing.

Tuesday, 11th.—The last three days felt some twitching pains in his left temple, with a fulness and noise in his ear; bowels open.

Applic. hirud. xx. temp.

Tuesday, 17th.—Felt entirely relieved from this application of the leeches; head free from all pain; able to walk and ride out; appears quite recovered.

Remarks.

The cause which first gave rise to this complaint, was an inflammation and suppuration in the canalis meatus of the left ear, which produced and kept up the nervous irritation in the left side of the head and face. These symptoms accelerated the action of the arteries of the affected part, and produced the throbbing and fulness complained of, which were effectually relieved by the application of leeches and blisters.

Quer.—Would not bleeding with leeches and blistering prove more successful in Tic Douloureux than dividing the affected nerve?

Mevagissey, Cornwall, February 27, 1818.

VIII.

A peculiar Case of enlarged Ovarium associated with Mental Derangement. By Mr G. F. Edwards, Member of the Royal College of Surgeons, and the Society of Arts, London, and Surgeon at Bath.

On the 4th day of July 1817, I was requested to visit Mrs P. of this city, a widow without a family, about 45 years of age. She complained of considerable tension and enlargement about the lower part of the abdomen, on the right side. At this time she was very feverish; the tongue was not only much furred, but of an unusual livid appearance; pulse quick and small, 130 in a minute; bowels constipated; thirst urgent; urine scanty and high-coloured; appetite for her usual food entirely gone; and, added to these symptoms, she was frequently seized with intense pain in the head, on each side of the temples, which extended to the back part. This pain generally recurred in the afternoon, and continued with increased violence through the night, frequently accompanied by delirium, sickness of the stomach, and vomiting.

I requested to be allowed an examination of the swelling, and found a circumscribed tumour on the right side of the abdomen, of a considerable size, which, when pressed, gave great pain, and caused a disposition to sickness of the stomach. As my patient had been married some years, and had never been pregnant, I conceived that either some original malconformation of the generative organs existed, or that some disease of the ovarium had supervened. The monthly period was exact as to time, but very great in quantity, and pale, evidencing some particular disposition of the uterus, and unavailing exertion of the constitution. The circumscribed enlargement on the right side, from the excessive and preternatural discharge, the absence of the natural secretion of urine, the œdema of the lower extremities, the fever, and all its concomitant symptoms, the nausea and vomiting, the difficult respiration, and the imperfect return of venous blood from the head and chest to the heart, all indicated some peculiar affection of the ovarium and uterus.

As some of the symptoms were alarming, and painful to a degree, an attempt to relieve them became a consideration of the utmost importance; consequently I ordered eight leeches to the temples, a three grain calomel pill, and a black draught in half an hour, the feet to be immersed in warm water, and kept warm. On the subsequent morning, I found my patient in a

measure relieved from the violent pain in her head, and the bowels were open. I prescribed a pill composed of three grains of squills, and half a grain of digitalis, every six hours, washed down with a saline draught in the effervescing state. In the evening the pain in the head recurred with violence, for which I ordered the head to be shaved and a blister applied to the painful part. The flow of urine was increased, and the pain of the head again relieved by the measures adopted: But this advantage was only of short duration; the pain recurred the next day with violence; leeches were again applied, with cold lotions to the head, and the bowels smartly acted upon by a repetition of the calomel pill and senna draught. Still the quick small pulse continued unabated; the swelling of the abdomen and legs increased; the lips and tongue were extremely livid, to a degree I never saw before; the muscles of the whole body shrunk; the countenance sunk, and look cadaverous; the eyes exhibited a peculiar dulness, with widely expanded pupils. In this alarming and peculiar state, the mental faculties participating in the general disorder, became deranged. In this forlorn situation little was expected, or could be hoped for. I opened a vein in the arm, and found the blood so extremely pallid, as to induce me hastily to tie it up again, without extracting more than two ounces. The head was shaved all over, and cold lotions incessantly applied, after freely evacuating the bowels, by a calomel and aloetic purge. Infusion of digitalis was ordered with a view of lessening the inordinate action of the heart and arteries, which was very quick, and 140 in a minute. The above plan acted so decidedly, as to produce a sudden remission of the disordered intellect, which only continued long enough to assure us of the uncertainty of its duration. The lucid interval was extended only to two hours, when the alienation returned with redoubled vehemence. I was now determined to blister the head to a more considerable extent; and give bark and digitalis every six hours; and the bowels to be kept open with calomel and cathartic extract. The effect of this plan was soon visible, the bowels were violently excited, sickness and excessive vomiting followed, and after some hours sensibility returned; the pulse at this time was only 74 in the minute, and low. I kept the blister open with savin ointment, and continued the bark every eight hours. The mental faculties were now completely released from disorder, and their functions were resumed as perfectly, as though an alienation had not taken place. Whilst this commotion was going on in the mind, the swelling of the legs wholly subsided, but the circumscribed hardness and swelling of the ovarium continued. As the solids were very much reduc-

ed, and the prostration of strength extreme, I ordered some Madeira wine to be given in panada or gruel frequently; to continue the medicinal plan, and to correct any disposition of the bowels to constipation. This plan, although it succeeded in rallying the torpid system, produced a reaction which increased all the symptoms of fever, and with it a disposition to fatuity, which in itself became more alarming than a total suspension of the mental powers. This morbid state of the mind continued upwards of three weeks; the legs increased in size, and a general œdema prevailed over most parts of the body. The urine was now scanty and high coloured; the bowels torpid, and sleep disturbed; pulse 135 in a minute, and felt like a thread beneath the finger. I gave a pill composed of two grains of calomel and four of terebinthina *e* Chio every six hours, with half an ounce of infusion of digitalis. The first twenty-four hours the bowels and kidneys were much excited, a very considerable quantity of urine was passed, and the pulse reduced to 100 in a minute. The plan was continued; and the next 24 hours I found the pulse 78, and intermitting; bowels irritable and very frequently evacuated; urine great, exceeding double the quantity of liquid taken; the mental faculties more alive and natural. The digitalis and calomel discontinued, and a pill composed of two grains of squills and three of terebinthina every four hours, with a draught of decoction of bark. The great secretion of urine continued, and in proportion the œdema subsided. Pulse 75; sleep more natural and refreshing; took some porter and a small piece of broiled meat. This sort of nourishment I encouraged. The same plan, without any variation, was continued a week, and each returning day found my patient better. The swelling of the legs now began to subside, and the enlarged abdomen sensibly became smaller; the appetite increased, the sleep good, and the pain in the head recurred but seldom; the mind sensible to the existing debility and prevailing disorder, which occasioned considerable anxiety for the event. The plan continued, with the addition of the compound infusion of gentian, tincture of columba root, and steel wine, twice a day. In place of decoction of bark, I procured a broad roller, about the circumference of the body, with straps and buckles, with the determination of trying pressure to the abdomen. This was put on every morning at rising, and drawn tighter every day, but not so tight as to occasion the slightest pain or inconvenience. At the end of this week, the diminution was an inch and a half; the swelling of the legs very considerably reduced, and the health altogether much improved. The following week I continued the same plan,

and ordered animal food, under done, to be taken several times a day in small quantities, with half a pint of porter night and morning, and to take the advantage of the air on foot. A senna draught was now and then given, in order to keep the bowels free. This week the diminution of the abdomen more than an inch; the urine great in quantity, and good in colour. The same plan continued, with a diminution of one grain of terebinthina. The countenance now appeared more natural, the mind much improved, and the functions of the system so changed, as to indicate favourable results. As the legs swelled more on walking, I suggested the propriety of applying a roller bandage to each leg, which was adopted every morning, and with manifest good effect.

The dropsical affection now gave way at all points, the abdomen sunk to its natural size, the tumour nearly subsided, and the legs but little enlarged. I ordered the plan to be continued a week more, at the end of which time I visited my patient, and was hailed with every demonstration of joy and gratitude. I found the mental faculties free from fatuity, and as capable of thinking, acting, and deciding, as before this catalogue of disorder commenced. The pulse was stronger, and the volume of blood larger, 88 in a minute, and perfectly regular; the tongue and lips natural in appearance; the abdomen flaccid, and free from uneasiness; the bowels regular; sleep sound and refreshing; appetite good; urine smaller in quantity; and in proportion to liquids taken. Every part of the plan was continued (except withdrawing one grain more of terebinthina) another week, at the end of which time I again saw my patient, and found every demonstration of returning health. The tonic medicine alone was now all that appeared necessary to perfect the health, and prevent a return of the disorder. This was done for some weeks with little variety. Change of air, and the use of bandages, continued until the health was perfectly re-established, which has now taken place for six months, without any uterine discharge, or a prospect of a recurrence of any disease; and as my patient has passed the grand climacteric, I am of opinion she may live in good health for many years.

Remarks.

I confess, amidst the inordinate disturbance of both body and mind, in this case, that I scarcely know how to account for the many real and sympathetic affections which so much upset every faculty and function both of body and mind. I am of opinion, however, that the time of life (about 45) was the exciting cause of all that occurred. The monthly discharge, which was very

profuse and pale, had varied much for some time previous; and as that varied, so the tumour on the right side increased or diminished,—increased, on its accession, with violent pain in the head, and subsided when the discharge ceased. At length the catameniæ totally ceased; the tumour now increased, and became tense. At this time the pain in the head increased, and the livid appearance of the tongue and lips were noticed; most probably this was occasioned by venous congestion in the vessels of the brain, and an imperfect return of blood from the head and chest. As the dropsy of the ovarium increased, the pain in the head increased also. Might not this pain arise from acceleration of the heart and arteries, only causing congestion in the vessels of the brain?

When the anasarca and the œdema became general, the mental faculties were disordered, and excessive derangement ensued. How far this state of mind was produced by the dropsical diathesis prevailing generally, and causing hydrocephalus internus, I leave to those who can better determine the fact than myself. That a morbid state of the brain ensued at this particular period of the disease, cannot be doubted; and it acted simultaneously with the increasing disorder of the body. I am inclined to believe that a dropsical state of the brain existed, and that effusion into the ventricles took place, which pressed immediatly upon the organs of mental volition, and caused alienation of mind.

This idea may be further conceived by a sudden remission of the alienation, and a lucid interval gained by sudden and great depletion by violent cathartics, which acted by revulsion; and its gradual cessation in proportion as all the symptoms of dropsy subsided. It is true that fatuity succeeded, and continued for some weeks, but synchronous only with the duration of the anasarca. When the symptoms of dropsy had entirely ceased, and the system gained strength, the mind resumed its former vigour; the solids increased in firmness; the ovarial tumour subsided; the appetite and natural sleep returned; and the system, in whole, became as capable of thinking and acting as though no disease had occurred.

This case certainly was one of a most singular and complex kind, and all, I do firmly believe, arising from disease of the right ovary, and from an imperfect and disordered state of the natural functions of the uterus. First, a profuse and pallid discharge for some months, which weakened all the powers of the system; secondly, an enlargement of the right ovary, showing a disposition to dropsy; thirdly, intense pain in the head, and livid appearance of the lips and tongue, proving venous congestion in the sinuses, and imperfect return of blood to the heart from the head and chest; and, lastly, œdema of the extremi-

ties, soon followed by universal anasarca, sunk countenance, flaccid solids, and privation of the rational faculties; exhibiting, as I suppose, the peculiar effects of pressure upon those organs immediately necessary to the maintenance of the mind.

This case proves of how much consequence it must be to restrain those inordinate discharges to which females are liable about the time of the monthly period's final cessation. If they are allowed to continue, a train of melancholy symptoms arise, which terminate all the future prospects of happiness. Such debility follows, consequent to the repetition of these sanguineous discharges, as weakens all the powers of life, debilitates all the functions of the system, and induces such morbid excitement, as baffles the brightest intellect, and holds the most mature judgment at defiance.

Bath, February 27.

Appendix to Mr Hennen's paper on the Cure of Syphilis without Mercury, giving the average results of the observations.

Primary Affections.

Number of days required for the cure of	Greatest.	Least	Average.
71 cases of Hunterian ulcers - -	50	5	18.97
34 ——— non-Hunterian ulcers -	85	5	20.29
Buboes ending in resolution.			
16 succeeding Hunterian ulcers - -	35	5	22.75
4 ——— non-Hunterian ulcers - -	45	5	24.81
Buboes ending in suppuration.			
4 succeeding Hunterian ulcers - -	65	30	47.5
3 ——— non-Hunterian ulcers - -	105	75	91.67

Secondary Affections.

	No. of cases.	Period of Appearance.			Time of Cure.		
		Greatest.	Least.	Average.	Greatest.	Least.	Average.
		weeks.	weeks.		weeks.	days.	days.
Hunterian tubercular -	5	24	3	8 w 5 d	6	10	26
——— exanthem. - -	3	6	4	5 w 2 d	6	8	21
——— pustular - -	1			3 w.			18
——— total - - -	9	24	3	7 w.	6	8	24½
Non-Hunterian tubercular	2	16	12	14 w.	5	14	24½

PART II.

CRITICAL ANALYSIS.

I.

Sur la Non-existence de la Maladie Vénérienne; ouvrage, dans lequel il est prouvé que cette Maladie, inventée par les Médécins du quinzième siècle, n'est que la réunion d'un grand nombre d'affections morbifiques de nature différente, dont on attribue faussement la cause à un virus contagieux qui n'a jamais existé. 8vo. pp. 179. Paris, Strasbourg, 1811.

We have undertaken to present an account of this work to our readers, because it embraces and defends, with no small share of ingenuity, some singular opinions on a disease, which, more than any other incident to man, interests both the patient and the physician, and implicates the very existence of the species itself. We are also the more inclined to notice it, because the public attention is at present so much directed to the history and treatment of syphilis; and we hope to be enabled, in our future Numbers, to offer to our readers some important observations upon the subject.

Without becoming the champions of either the mercurial or the non-mercurial practice, we are satisfied that great benefit must ultimately result from the inquiries which are now prosecuting with such diligence by the army surgeons. The nature of the situation in which these gentlemen are placed, gives them facilities which cannot be enjoyed in any other, of establishing comparative trials of various modes of treatment in the cure of disease; and, in this disease in particular, their opportunities are extremely valuable and extensive.

Of late years, the treatment of syphilis had become much more rational—its symptoms had been more accurately distinguished, and its cure more judiciously conducted. We had arriv-

ed at a degree of improvement in these points which had led us to suppose, that if, in our knowledge of any disease, we had approached perfection, it was in this. We had even begun to verge towards some of the errors into which an intimate and familiar acquaintance is apt to betray us; and, in despising the supposed ignorance, and the coarse and homely practice of our predecessors, we were insensibly multiplying refinements, and overstraining facts. In the work before us, however, we are suddenly and vigorously arrested in this progress; and a disease, the *frequent* occurrence only of which we were led to doubt, we are now boldly assured, has 'an habitation and a name' solely in our own fancy.

The author of this publication is unknown to us; but we understand that it has been attributed to some man of considerable talent, and no little eminence in the profession. The work itself has only been introduced into this country within a short time, although published so far back as 1811; and, we believe, it has become scarce even in France. The writer seems to be perfectly aware of the very difficult task which he has imposed upon himself, as well as of the general opposition which his paradoxical opinions will meet with; and, with the example of Galileo, as he says, before him, he rather courts than shuns inquiry; although he is well aware that 'the medical inquisition has sometimes shown itself as intolerant as the religious;' and, 'that many of those who peruse his book, will doubtless imagine, that they concede him a high favour, when they do not at once set him down as mad.' To enable the reader to form his own judgment, we shall lay before him an analysis of the sixteen chapters into which this little volume is divided, and leave him to draw his own conclusions, without entering into the boundless fields of controversy to which we are courageously challenged at every page.

The 1st chapter treats of the origin of the venereal disease. The author rejects the opinion that it was imported by Columbus; and his dissent is founded principally on the disagreement of dates. Columbus, he says, sailed on the 3d or 4th of August 1492, and returned on the 13th of March 1493. His second voyage took place in September 1493, and lasted till June 1496. Charles the VIII. effected the conquest of Naples in 1495; and if any of Columbus's crew composed a part of the enemy's army, they must have been those of his first voyage, and in a very small number. Charles lost a great many of his troops by massacre in the different garrisons through which they were distributed. To effect his retreat, he was obliged to fight a general action. Before this action his army was reduced to 8000 men. The

half of the survivors he left in the country of Milan; a great part of the remainder were dispersed through the provinces in the south of France, so that a very inconsiderable number returned to Paris; and, supposing that they were all poxed, was it possible that they could have infected all Europe the same year? An arrêt of the Parliament of Paris, dated the 5th of March 1496, speaks of the 'Grosse Vérole,' as of *two years standing there at that time;* it denounces the penalty of hanging against all strangers infected with the disease, who did not quit the capital within twenty-four hours, &c.; but this date evidently shows that the epidemic which committed such ravages, could not have come from America. He conceives it more probable, that at the period of the siege of Naples, a contagious malady of the skin raged very generally; that it manifested itself in large pustules, or tubercles, 'des gros boutons,' and that hence came the appellation 'Grosse Vérole,' in opposition to the petite verole, or small pox. Gabriel Fallopius gives the disease the name of the pestilential itch. This pestilence was communicable by the air (as it was supposed), by simple contact, by remaining in the same chamber, wearing the same clothes, &c.; and without admitting some other mode of propagating the infection, beside coition, it is difficult, he says, to conceive how, in so short a space of time as two years, it could have spread all over Europe. He allows, however, in another place, that the occurrence of the disease among priests and nuns, rendered it necessary 'pour l'honneur et la facilité du diagnostic,' to admit of other modes of communication; but to us it appears, that the open and scandalous profligacy of these persons at that time, might have assisted very materially in propagating the disease by sexual intercourse, although we by no means deny the probability of its having been otherwise communicated. * In the instance of Henry VIII. of England, and his minister Wolsey, this opinion has become identified with the history of the country. The contagion, under the name of the 'Grandgore,' had previously made such progress in this city, that by an order, dated the 22d of September 1497, all those affected with it, were to 'devoid, red, and pass furth of this town, and compeir upon the sandis of Leith,' for the purpose of being taken to Inchkeith to be cured. Our au-

* "These be they," says Simon Fish, the reformer, speaking of the priests in his supplication presented to Henry VIII. in 1530—'These be they that corrupt the whole generation of mankind in your realm; that catch the pockes of one woman and bear them to another; that be burnt of one woman and bear it to another; that catch the lepry of one woman and bear it to another.' *Vide* Becket's Collection of Chirurgical Tracts, London, 1740, on the Antiquity of the Venereal Disease.

thor conceives, that the disease was either a psoric, or an herpetic eruption, which had attained an high degree of malignity among the French and Spanish troops, but which had existed long before the conquest of Naples; and that it was complicated with scurvy or leprosy, which at that period, when linen was not generally worn, when the habitations of man were small and crowded, and cleanliness but little attended to, was much more frequent than at present. Fear at first greatly aggravated its terrors; but after a short time, this began to subside, and our author gives us the testimony of Guicciardini the historian, who wrote shortly after its first appearance, and affirms, that the disease had greatly abated, and had *spontaneously* changed into many species *different from what it at first exhibited.* He is not inclined to admit the opinion of Swediaur, and those who suppose that syphilis was the same as Yaws, Sibbens, Ignis Persicus, &c. and had existed previous to the discovery of America, in the torrid climates of the old continent; for, in that case, it must have been known to the Arabians. He is decided in his belief, that all the symptoms, the combination of which forms the disease called syphilis, were well known to the Greeks and Romans, but were treated by them as separate and independent affections; the origin of many of them it is impossible to determine, and their cure is slow and difficult; such are the obstinate affections of the skin, the glands, and the bones. Syphilis, he asserts, has come in most opportunely to save the physician the trouble of research; and the spirit of generalization, which first occasioned these symptoms to be confounded together, added to the convenience of having a name and an explanation for many ill understood morbid affections, has contributed to propagate the error.

In his 2d and 3d chapters, he treats of Gonorrhœa and its consequences. He proves from the Mosaic laws, and from the regulations for the management of the public stews at Avignon, made more than an hundred years before the time of Columbus, that the disease was not only known before the supposed introduction of syphilis, but even from the earliest ages of the world. He refers it to various sources of irritation of the mucous membrane lining the urethra; and in this part of his work, he approaches much nearer to the opinions generally held on this side of the Tweed, than to those of the French practitioners (or even we believe to some of those in England), among many of whom, it is still imagined, that gonorrhœa is produced from the true 'virus vérolique,' and consequently, that the only safe method of cure is by the employment of mercury. He observes, however, that some of them, Fabré in particular, allow, that the

discharge often continues after the employment of mercurial frictions,—' mais, malgré cette circonstance,' says Fabre, ' *on peut moralement assurer le malade de la guérison radicale de la vérole.*' The author observes, with much naïveté, on this admission—' On voit qu'il est avec la vérole des accommodemens.'

In his fourth chapter he treats of the ulcerations of the genitals which have been styled chancres, many of which are extremely obstinate from situation. These he attributes to a variety of causes; and he very clearly shows, from Gordonius and Lanfranc, that ulcerations from sexual intercourse were known long before the introduction of syphilis, or, as he calls it, ' l'invention de la vérole.' His opinions with regard to these sores seem so conformable to those which at present occupy the medical world, that we shall transcribe a passage, both as an evidence of their similarity, and as a specimen of the author's style.

' Le plus souvent les ulcérations des parties se dissiperoient, comme les aphtes, par des soins de propreté; il est néanmoins prudent de consulter un homme de l'art. Si malheureusement on tombe entre les mains d'un syphilomane, il communique à son malade la terreur que lui inspire la vérole; alors le mercure apparoît sous toutes les formes. On cautérise l'ulcération, comme une morsure de chien enragé; on applique dessus des médicamens escarrotiques, corrosifs, etc. Qu'en arrive-t-il? Une simple excoriation, qui se seroit dissipée d'elle-même, par des lotions adoucissantes, et un régime approprié à l'état de l'individu, continuellement irritée par les remèdes, s'etend, devient douloureuse; les bords s'élèvent, la suppuration est âcre, et on a fait exactement tout ce qu'il falloit pour que l'ulcère fût rongeant et cancéreux.' pp. 48, 49.

In his fifth and sixth chapters, he treats of phymosis and paraphymosis, of warts, and other excrescences, all which he attributes to causes entirely unconnected with syphilis, and proves their antiquity from the writings of Celsus. In the succeeding chapter, Swediaur, Cruickshank, Van den Bosch, Mascagni, and Sœmmering, furnish him with a host of examples of the non-syphilitic nature of buboes; and he shows that their causes and cure were well known to Lanfranc and Guy de Chauliac.

' The enlargement of the glands,' he remarks, ' has turned the heads of all the syphilomaniacs. Wherever scrofula is not suspected, the venereal virus is always ready to assist in the explanation of the cause. Swediaur, for instance, had some ulcers on the glans, which disappeared in ten or a dozen days; six months afterwards he was on a journey, and an herpetic eruption appeared on his elbow, attended with great itching, and an enlargement of a gland in the arm-pit; a consequence extremely natural; but his imagination being filled with the idea of the pox, he had no doubt as to the nature of his disease,

and commenced the use of mercury. Fifteen months afterwards he got a pain in his breast, which he very naturally took for a rheumatic affection; but unfortunately having pared a corn rather too close, he occasioned a small suppurating sore; the pain gave rise to a swelling of a gland in his groin; and this tumefaction, simple though it was, concurring with the pains of the rheumatism, Swediaur, out of the whole of his symptoms, composed an excellent pox, 'une bonne vérole,' and began a mercurial course. The pretended bubo dispersed; the little wound in his toe healed in spite of a very ill-timed mercurial plaster which he stuck upon it; 'and by continuing,' says he, 'the frictions during twenty successive days, I was radically cured.' 'Of what,' asks the author, 'was he radically cured by his twenty mercurial frictions?—why, of a cut of a corn on his toe, and of a little swelling in a gland of his groin.'

In the eighth and ninth chapters of his work, our author passes to the consideration of confirmed pox, and the mode of its communication.

'It is scarce thirty years,' he remarks, 'since the symptoms already enumerated, were looked upon as incontestable proofs of a person being affected with lues; but since that time, judicious observers have had occasion to see, that these dogmatic decisions were far from infallible. Physiological and chirurgical knowledge became more diffused among medical men; they began to doubt the suspicious origin of many affections of the genitals, and they disputed with the syphilitic virus the legitimacy of a large part of its sovereignty. Peyrilhe, Hunter, and Swediaur, were among the number; but Benjamin Bell, more hardy than they, tore from its grasp the most beautiful and most productive of its dominions, gonorrhœa and its dependencies.'

Having denied the syphilitic nature of the symptoms denominated primary, and shown that they existed before the supposed introduction of that disease, it follows, he conceives, as a natural consequence, that a conclusion founded on false premises should fall to the ground. The disease of 1494 was a pestilential itch, of which the accounts are extremely inaccurate, and the very symptoms of which were not cognisable in a short period after its first appearance, but spontaneously assumed a different character. This supposed change, he asserts, evidently was the work of the physicians who wrote in the times of ignorance and barbarity, and who had no experience in the treatment of external diseases: these were at that period entirely in the hands of the barbers, men without education, totally ignorant of letters, and incapable of describing the diseases which were entrusted to their care. He does not enter into any historical researches to decide the question, whether any other instances of pestilential itch have occurred in Europe since 1494: But he quotes from a communication made by M. Finot, to the

l Society of Montpelier, published in the 19th volume
ournal General de Médécine,' an account of a disease,
ng word for word, as he says, with the description
nic from which the venereal virus is traced in a
disease was looked upon as of a scorbutic na-
ed by a milk and vegetable diet. Our author
the epidemic of 1494 having been communi-
nd coition implying a very intimate con-
earances of the genitals which had pre-
ooked as ordinary occurrences, or treat-
ders, became more particularly attended
ans.

ng proof of the ignorance of the physicians on this point,
their zeal to aggrandize the domains of the supposed virus, is
e pretended discovery that they made of many disorders previously well known. According to them, warts and other excrescences, and buboes, did not make their appearance before 1533; and if we are to believe Fallopius, gonorrhœa and strictures were not observed before 1545.' Astruc allows, that the authors of the sixteenth century did not begin to observe these diseases before 1535, and were long in doubt as to their causes; "but it was necessary to re-find them somewhere; and America, which had been recently discovered, and produced nothing but wonders which were a subject of constant discussion, was at once fixed upon as their native country.'"

He rejects, as altogether absurd, the opinion of children contracting the disease 'in utero.'

In his subsequent chapters, he proceeds to a more minute examination of the symptoms, beginning with those of the skin, which form the subject of his tenth. Notwithstanding that cleanliness, and a different mode of living, have tended to the diminution of leprosy and many other diseases, yet those of the skin are still the most numerous and most varied; and although Pathologists have classed them according to their causes, many yet remain in obscurity. By what signs, asks this author, are we to distinguish those which proceed from the venereal virus? Is it from their having been preceded by excoriation of the parts of generation, or by morbid discharges from them? or because they have followed connexion with the female sex? or are we always to have recourse to the illogical and absurd conclusion, 'post hoc, vel cum hoc, propter hoc?' The skin, the organ of touch, sympathizes remarkably with the sexual organs, a sympathy from which the physiologist may draw many important conclusions. In proof of this sympathy, the author refers especially to the herpetic eruptions which are the consequences of masturbation, and which disappear on the cessation of that habit. The difficulty of discriminating a syphilitic

eruption is, he observes, admitted on all hands; the test by the smell is quite ridiculous; 'but say the syphilomaniacs, that by mercury will remove all doubts,—if the eruption is cured by this remedy, it has been assuredly syphilitic:' but mercurial ointment he shows to be an old preparation of the Arabians, and employed by them for cutaneous diseases, long before the discovery of the pox. It is therefore manifestly absurd to adduce its effects on a suspicious eruption, as proof of that eruption having been syphilitic. An herpetic eruption of the chin, which is at this day decided to be venereal, he observes, has been described under the title of Mentagra by Pliny, and is stated by him to be a disease highly contagious, and communicable by kissing.

In the 11th chapter, he treats of the diseases of the mouth and nose. He points out a number of these affections which avowedly depend on causes not syphilitic. In some of the most obstinate, after other remedies have failed, mercury is frequently had recourse to, and it operates powerfully upon them, not by its antivenereal, but by its stimulant and resolving properties, peculiarly exerted on the lymphatic, and especially on the salivary system.

'The cure effected,' says this lively writer, 'the doctor applauds his own sagacity and discrimination in having discovered a venereal taint which had escaped the penetration of others, and nothing can persuade him that he has not combated and vanquished a venereal disorder, and thereby secured both the present and future tranquillity of his patient. Events of daily occurrence such as this, confirm practitioners in the supposition of the existence of a venereal taint in a variety of cases, but especially in those of the mouth. In short,—a patient has had connexion with the other sex; he afterwards has a discharge or an ulceration of the glans or prepuce;—therefore he is poxed. A conclusion as just as that which is daily drawn on the subject of vaccine inoculation; a child gets an herpetic eruption, furunculi, crusta lactæa,—it had been vaccinated, therefore all proceed from the cow-pock.'

He now proceeds to show the sympathy which exists between the skin and the parts contained within the mouth, as illustrated by scarlatina, &c.; he also shows the connexion between the throat and organs of generation in a state of health and disease; and profiting, as he says, by the example of those who find in Hippocrates all that they wish to find, he quotes from the 'Epidemics' of that author, an instance of the simultaneous affections of the mouth and the genital organs,—a circumstance already remarked upon by Van Swieten, and accounted for by him without any reference to a venereal cause.

He remarks upon the ulcers occasioned by mercury, being often triumphantly exhibited as proofs of the presence of syphilis in the throat; and he points out the absurdity of those practitioners who, on the failure of mercury to cure obstinate affections of that part, assure their patients 'that they may be perfectly at their ease; for that the virus is destroyed, and nothing but a local affection remains.'

The affections of the nose he states to have been familiar to the Greeks, under the term ozæna, and to have been cured with as great difficulty by them as by the moderns. He refers to the Glanders in horses as an instance of contagious affection of the pituitary membrane with caries, and observes, that these animals have at present the advantage over their riders, in not being tormented by the venereal disease from coition; but he does not despair of this discovery being made by future farriers.

In his 12th chapter, he treats of the diseases of the bones; and he proceeds, with great force, to point out the very uncertain grounds on which they are often decided upon as venereal—grounds, as he insinuates, often depending upon the whim of the physician himself. He offers some remarks upon scrofulous and scorbutic affections in general, and of the bones in particular; and he concludes by enumerating the long series of diseases (nearly 50) which Astruc, whom he elsewhere styles the 'Patriarch of the Syphilomaniacs,' attributes to a venereal cause. He declines entering into an examination of them; but he concludes, that a virus which can produce so many diseases, can produce none; or, in the words of the proverb, '*Qui prouve trop, ne prouve rien.*'

'When an individual, he observes, is affected with scurvy, we see it before our eyes; and we also know the symptoms which announce a scrofulous constitution, although we have not fully developed all the affections produced by the two diseases. The herpetic and the psoric affections disclose themselves openly; but how does the active, the penetrating, the contagious venereal disease announce itself? It engenders all the diseases which we think proper to ascribe to it; it obeys all the caprices of the person who undertakes to cure it; it lies dormant 20 or 30 years; and it awakes again at pleasure. An individual communicates it without ever having been visibly affected by it. He transmits it to one or two of his children, while the rest are perfectly sound! Nevertheless, even by the admission of the syphilomaniacs themselves, wounds heal as easily in a venereal patient as in a sound one. Wounds in persons of a scorbutic or scrofulous constitution are influenced by that constitution; and yet the venereal taint possesses no influence over these injuries. The explanation of this singular and admitted fact is simply this. The various accidents which are treated as venereal, are altogether local, and depending on no specific

virus. If the patient labouring under them receives a wound, it is an additional local injury, of which the cure can only be retarded by bad treatment; a fact, the truth of which has been so often demonstrated, that it admits of no doubt.'

Such are the strong assertions with which the author concludes this chapter.

In the 13th chapter, he treats of mercury and other antivenereal remedies. The diarrhœas, and the sweatings which succeed to the use of mercury, are not, he observes, the *privileged* evacuations for expelling the virus; it is absolutely necessary that it escape with the saliva. 'This marvellous doctrine has contributed not a little to impress on the patients that kind of religious awe which renders them so docile and so credulous. The streams of saliva which the curers of syphilis have caused to flow, have been to them a modern Pactolus; and those powerful springs of the human imagination, fear and interest, have combined to furnish a support to the supposed existence of the disease.'

He proceeds to examine some of the preparations of mercury, and some of the theories on which its action is explained, as well as some of the diseases which it produces, and which are often mistaken for venereal: But we have trespassed too long on our reader's time to follow him; neither can we afford to transcribe his observations on the supposed good effects of various substitutes for mercury, and on that great bulwark of quackery, the *spontaneous* cures of many symptoms of the disease.

In his 14th chapter, he treats as 'pur bavardage' the idea of syphilis undergoing a daily change, and approaching its final extinction; neither will he admit that it is more severe in the northern than in the southern countries, nor that it can remain dormant in the blood;—all necessary consequences of his system, which attributes the venereal diseases altogether to an ideal source. In denying, however, the existence of a contagious virus produced by sexual intercourse, he dedicates his 15th chapter to an account of the effects produced by debauchery, and of the diseases which result from it,—diseases which were known, he says, from the earliest times, and were the identical symptoms which we now observe, and denominate syphilitic. He divides them into local and constitutional; and observes, that, before the discovery of America, they were all attributed to leprosy, which then played the same part that syphilis does at present.

He concludes his work by summing up as follows.

'1st, That the diseases at present attributed to a venereal virus were known before the discovery of syphilis. 2d, That the epidemic malady which raged in Europe about 1494, did not come from America. 3d,

That that disease of the skin which was communicable by the air and by simple contact, bears no resemblance to that which physicians afterwards asserted was propagated by coition. 4th, That the venereal disease is nothing else but an assemblage of different diseases, derived from different causes; and that this assemblage is the work of the physicians, and has no existence in nature. 5th, That debauchery produces at present, as it has done at all periods, various diseases, without the intervention of a peculiar virus acting on the animal economy.'

Having pointed out one extreme of opinion, it was our intention to have contrasted with it that of the more recent French practitioners, Cullerier, Fournier, and Lagneau; but this we must defer to another opportunity, and shall content ourselves with a very few observations.

1*st*, It appears to us that the author has very much overstrained facts, and has adopted a mode of reasoning, by which an acute man, with the adroit use of a few detached historical notices, might make a plausible endeavour to show, that not one of the diseases which flesh is heir to, had a real existence in nature. Let us apply this mode of reasoning to Scurvy, a disease, by the by, which he supposes to have been combined with others to form syphilis; and which, in many points of its history, bears a strong analogy to it. Scurvy first particularly attracted attention as a disease of mariners, in the voyage of Vasco de Gama in 1497, about the same period that syphilis became generally known; and the first medical description published, was an account of it as it raged in besieged towns, by Olaus Magnus: traces of some of its symptoms, however, are to be found in the writings of Hippocrates, Strabo, and Pliny. There have not been wanting ingenious and whimsical men, who have supposed they could trace it even in the sacred writings; and if Job and King David were said to be afflicted with venereal complaints, Moellenbroeck will have it that the centurion at Capernaum laboured under the scurvy! But to return to the profane authorities:—The native Indians of Canada were found by their earliest visitors to be much afflicted with scurvy, of which they cured themselves by the use of certain indigenous plants, and by sweating; the natives of St Domingo were circumstanced precisely in a similar way with regard to syphilis. If we prosecute our inquiries a little farther, we shall find that scurvy was attributed to the employment of certain articles of food, as fruits, and a species of fish that fed on human bodies; eating pork, peas, and lizards, were assigned by some as exciting causes of syphilis; and Andreas Alcazar contends, that it was an old disease, reproduced in 1495, by the use of human flesh, an opinion also advanced by Fioravanti. Both scurvy and syphilis

were supposed to proceed from certain states of the air, and conjunctions of the planets; the latter disease was looked upon as a scourge sent from heaven; and Eugalenus, an early writer on scurvy, makes no doubt that *it* owes its appearance to the devil! and is a chastisement permitted by the Almighty for the sins of the world. Fallopius places the seat of syphilis in the liver; Eugalenus places scurvy there also, although he allows that it occasionally resides in the spleen,—and Ronsseus is quite positive upon that point. The rapidity with which syphilis spread among ecclesiastics, and the modification of its symptoms shortly after its first appearance, are mentioned by almost all authors; the very same thing is recorded of scurvy. Syphilis was said to be propagated by simple contact, and by kissing; Horstius ascribes the spreading of the infection of scurvy in Holland to kissing; he also makes it hereditary, and says, that the grandfather might infect the grandson, though his own child escaped the infection. To conclude this parallel, (which we might have very easily extended to the symptoms equally numerous and incongruous, which have been attributed to both diseases, and even confounded with each other), Willis says of a complicated and doubtful case in which he was consulted, 'that as it could not properly be referred to any other disease, it might justly be styled scorbutic.' The well-known aphorism of Boerhaave with respect to syphilis, has been framed upon the same principle, 'In dubiis suspice luem.'—Yet, notwithstanding all these coincidences, complications, and absurdities of opinion, common to both diseases, the actual existence of scurvy has never been doubted. *

2dly, Although we admit that there is much truth in his remarks upon the existence of many separate symptoms of the venereal disease before the discovery of America, we by no means think he has disproved the introduction of a new disease of that nature about that period; nor indeed has he employed all the authorities on this point that he might have done, and that we naturally look for on a subject so debated, the sources of information on which are by no means difficult of access, and the establishment of which serves as one of the main props of his opinion. San-

* Vide The History of the Portuguese Discoveries by Castanneda. Hackluyt's Voyages, Vol. III. (Cartier's Voyage.) Olaus Magnus de Medicina et Medicis Septentrionalibus. Val. And. Moellenbrocii de Variis. De Morbo Scorbuto liber, auctore Severino Eugaleno. Joan. Echthii de Scorbuto, epitome. Bald. Ronssei de magnis Hippocratis lienibus, commentarius. Gregor. Horstii Tractatus de Scorbuto. Thomæ Willis Tractatus de Scorbuto. These authors show the opinions held with regard to scurvy, from Echthius who wrote in 1541, down to Willis, who published his treatise in 1667, embracing a period of upwards of a century and a quarter.

chez, Perenotti, Hensler, Girtanner, Sprengel, Swediaur, &c. have of late years keenly and learnedly contested the point of its *foreign* growth; but of its *actual* appearance as a distinct disease, there can be no rational doubt.

3dly, A great part of his arguments are founded upon the non-syphilitic nature of some of the symptoms; but these arguments are much more applicable to the opinions entertained in France, than to those of the best informed English surgeons since the days of John Hunter.

4thly, We are most willing to admit, that many diseases have been mistaken for syphilis, and that the grossest abuses *have* existed, and among many practitioners *do* exist, in the use of mercury; but we cannot allow, that the abuse of any medicine should furnish arguments against its utility.

5thly, We conceive that the author has failed altogether in his attempt to account for the secondary symptoms, by supposing them the effects of a debauched life, or the imaginary creatures of the physician's invention; for this plain and obvious reason,—that they very frequently occur in persons, who, so far from having led dissipated lives, have never had sexual connection previous to the unfortunate one from which their disease has proceeded; and that secondary symptoms observe a certain order in their appearance, entirely beyond the reach of medical influence or caprice, and evidently not in a fortuitous combination, but in a regulated and nearly uniform succession.

6thly, The author's opinion, that the venereal disease is not a new one, but a combination of diseases well known to the ancients, and intermixed with those peculiar to camps, although urged with the appearance of novelty, is by no means original. It is a very old opinion, and was supported by many, but very particularly by Johannes Langius of Limbourg, in his epistles, published in the year 1554. That author expressly states the venereal disease to be '*veterum morborum farrago et colluvies.*'—(De Morb. Gallici Tuberibus Epist. apud Luisin. Tom. II. p. 848. Edit. Lugd. Batavor.) He also commits an historical mistake in attributing to Mr Benjamin Bell the original promulgation of the opinion that gonorrhœa was not connected with syphilis, and did not require the use of mercury. That fact was first publicly noticed in Great Britain by the late respectable Dr Francis Balfour, in a paper read to the Medical Society of this city, in 1766, and afterwards published in his Thesis, in 1767.—(*vide* General Preface to a Collection of Treatises on Sol-lunar Influence. Cupar, 1811.) The local nature of Dr Balfour's communication must have necessarily confined its circulation; but the same doctrine was published by Dr Duncan senior, of this university, in his

"Medical Cases and Observations," Edin. 1778, a French translation of which, by Coquart, appeared at Paris in 1797. Indeed, the anonymous author is much more conspicuous for his ability as a special pleader than for his learning, a particular in which he falls very far short of '*le bon Astruc, médecin consultant du roi, et professeur au College de France*,' whose '*doctrine sublime*' he affects to despise, but who has left little to be gleaned regarding the history of syphilis, by any who may travel over the same laborious field of inquiry that he has done himself.

Finally, Although the work before us possesses very much of the lively nature of a *jeu d'esprit*, yet we conceive it contains many observations well worthy of attention, peculiarly so in France, where mercury seems to be much more generally given than with us; where the anomalies and complications of the disease have not been so much an object of investigation; and where considerable prejudices still prevail in its treatment. Much yet remains to be done among ourselves: But we think we perceive, in this early stage of renewed inquiry, an approach to prejudices, and even to personalities, which cannot be sufficiently deprecated; which can never advance the cause of truth; and which look too like the angry and interested ebullitions of party, to be admissible into a scientific question, or to be becoming in the members of a liberal profession.

II.

Observations on some important Points in the Practice of Military Surgery, and in the Arrangement and Police of Hospitals, Illustrated by Cases and Dissections. By JOHN HENNEN, Deputy Inspector of Military Hospitals. 8vo. Edinburgh, 1818. pp. 508.

NEVER was there a period in which we had so much reason to boast of our state of military and naval surgery and medicine. Each succeeding publication and memoir display professional zeal, and a successful practice, which shed, comparatively, as great a lustre around the medical as the military departments of our army and navy. The history of the last campaign has proved, equally, that the French were our superiors neither in the field of battle, nor in the skilful treatment of those who bled in that field. While the battle raged, our sol-

diers were enemies,—when wounded, there was no difference between friend and foe; and the surgical department of the armies of both nations had a struggle, equally severe, for the mastery, which has been succeeded by mutual esteem, and been softened down into generous emulation.

The volume now lying before us, is valuable in every respect. Its author, engaged for many years in active service, has passed through the various ranks of his department in the most interesting scenes. Thoroughly acquainted with the duties and difficulties of each situation, and conversant with every evil which the soldier suffers from disease and the chances of war, he has in this volume given the result of his experience, for the benefit of his successors, and, we may add, of his contemporaries. For there is no surgeon, however extensive his practice, who will not here find much that is new and important. Nor is this to be wondered at, if we were merely to consider the opportunities possessed by its author. But he has been no less diligent and judicious in his labours in the closet than in the field; and has displayed so intimate an acquaintance with the older authors, that we could scarcely have expected in one who had not spent the best of his days in the quiet cloisters of a college.

After a few introductory remarks on the progress and present state of military surgery, he proceeds to point out the duties of the medical officer in an active campaign; the preparatory steps on taking the field; the general nature and first treatment of wounds; the organization of receiving-hospitals; and the general surgical and medical treatment of the wounded. He then discourses, in succession, of the extraction of foreign bodies; of contusions and other serious injuries; of the injuries of the bones, joints, muscles, blood-vessels, and nerves; of the general affection of the system from wounds; hospital gangrene, mortification, and tetanus. He next enters at very great length into the subject of amputation; and concludes with observations on the injuries of particular parts, illustrated by a most valuable selection of cases, treated by himself or his friends, and which should teach us not to distrust the narrations of the earlier observers because they seem incredible, nor to believe that any singular case which has fallen under our observation has had no parallel.

We must always keep in view, that our author is a practical army surgeon, and that he writes of what he saw in service, and for those who are to practise in the field.

The whole of the question concerning the proper time of amputation, is discussed with great good sense. Mr Hennen has enumerated the cases requiring operation on the field, or shortly

after removal to the fixed hospitals, and the reasons for this determination.

1. When an arm or leg is carried completely off by a round shot.

2. Extensive injuries of the joints.

'I would still, however, lay it down, as a law of military surgery, that no lacerated joint, particularly the knee, ankle, or elbow, should ever leave the field unamputated, where the patient is not obviously sinking, and consequently where certain death would follow the operation.

'3dly, Under the same law are included, by the best and most experienced army surgeons, all compound fractures close to the joints, especially if conjoined with lacerated vessels or nerves, or much comminution of the bone, particularly if the femur is the injured bone.

'4thly. Extensive loss of substance, or disorganization of the soft parts, by round-shot, leaving no hope of the circulation being carried on, in consequence of torn arteries or nerves.

'5thly, Cases where the bones have been fractured or dislocated, without rupture of the skin or great loss of parts, but with great injury or disorganization of the ligaments, &c. and injuries of the vessels, followed by extensive internal effusions of blood among the soft parts.'

The propriety of amputation on the field being admitted, the question naturally suggests itself, what is the proper period? instantly on the receipt of the wound, or consecutively? Mr Hennen replies from experience,

'*With as little delay as possible.* While hundreds are waiting for the decision of the surgeon, he will never be at a loss to select individuals who can safely and advantageously bear to be operated on, as quickly as himself and his assistants can offer their aid; but he will betray a miserable want of science, indeed, if, in this crowd of sufferers, he indiscriminately amputates the weak, the terrified, the sinking, and the determined. While he is giving his aid to a few of the latter class, encouragement and a cordial will soon make a change in the state of the weakly or the terrified; and a longer period, and more active measures, will render even the sinking, proper objects for operation.'

The causes of death after amputation are various. Fever, whether symptomatic or endemic, and mortification seizing the stump often cut off our patients. Sometimes the febrile affection is of a chronic nature, and soon degenerates into hectic, with cough and every symptom of phthisis, and often the patient sinks, as it were, at once arrested by the hand of death. Dissection throws some light upon this interesting subject, and the results are classed by Mr Hennen under the following heads.

'1st, Inflammation of the vessels. In some cases the veins, in others the arteries, and in others again both the veins and arteries, will be found inflamed, from the point of the stump to the very auricle or ventricle; and, in many parts, either lined with coagulable lymph, or filled with purulent matter to various distances.

'2d, Metastasis to some of the great cavities, or organs. Large quantities of purulent matter are sometimes found, in fatal cases of amputation, in the thorax, either in the substance of the lungs themselves, or floating loose in the cavity; or serous effusions, and great congestion of blood in the body of the lungs, with conversion of them into a substance resembling liver, designated by the appropriate appellation of hepatization, by the French surgeons. In the abdomen, abscesses are often discovered, particularly in the liver, and at a very short period from the removal of the limbs. In the adjacent joints also, matter is frequently found.

'3d, Diseases of the bones, or of the joint close to the amputated part. These admit of the easiest recognition in the living subject, and are various in extent and degree, and when not proceeding to the last stage, or not having superinduced great general debility, may be in some measure alleviated. They are always attended with inflammation, and separation of the periosteum, although in some cases the cicatrix remains sound over the end of the stump; and it is only after a separation of the soft parts, in consequence of an abscess, or ulceration, that the bone is found denuded for various lengths, sometimes close up to a joint, and lying an extraneous body in the centre of the muscular mass, exciting and keeping up a degree of irritative fever, which but too often proves fatal.'

The morbid changes, which are the consequences of compound fractures, are well described.

'The ravages of disease were most extensive in the cases of compound fractures, which have remained disunited, and which I have examined after the fatal result, or after the limb has been removed. In the soft parts I have met with enormous abscesses, extending far and wide around the fracture, so that the ends of the bones have been constantly immersed in the contents; and the muscles, in many cases, and in some the periosteum, separated for several inches from them. The infiltration of matter has extended far in the interstices, and in the fleshy bellies of the muscles themselves; in some cases, dissecting these organs very completely one from the other; in others, partially destroying them; and, in numerous instances, leaving no distinction of parts whatever, but a flabby, putrid, offensive mass of decomposed animal matter, the more fluid part of an intolerable fetor, and having already masses of cellular substance floating in it; while the more solid have had so little cohesion, that they were easily broken down by the handle of the scalpel, bearing in many instances a most striking resemblance to chewed paper, or the pulp of rags.

'The blood-vessels have been observed very often lacerated; and coagula in various stages, from recent formation up to hard consoli-

dated masses, have been found effused from them, separable into different layers, and retaining, even when removed from the diseased parts, and washed repeatedly, a very nauseous putrid smell. The bones have not, in some instances which I have examined, participated as much in disease as the soft parts; nor have the joints in the vicinity of the fracture appeared to suffer nearly so much as might have been imagined. This exemption has only occurred in two cases; and in both, in officers of high rank and sound constitutions, who most punctually fulfilled all the directions given to them by me, and were exemplary in their strictness of regimen.

'In the remainder of about fifty cases that I have examined myself, or been present at the examination of, and thirty examined by gentlemen in whom I place the highest confidence, more or less of disease was observable in the bones, exclusive of the solution of continuity effected in them. The appearances, which were sometimes separate, but much oftener combined, were generally as follows:—roughness of the extremities of the fracture; denudation of the sides of the bones, and worm-eaten absorption of them; inflammation and ulceration; exfoliation of various sizes, and of different stages of looseness on the extremities of the fractured ends, but not often including the *whole circle*; the same on the sides of the bones in the vicinity of the fracture; the same at a distance from the fracture, but not continuous with it; line of separation between the bone and its epiphyses or processes, very evidently marked, and of a vascular appearance; (this last appearance I have seen only at the ends of the bone farthest from the source of circulation; and in such cases, abscesses were formed over the diseased points;) loss of the cancelli in the medullary cavities of the bones, with destruction of the medulla itself, or conversion of it into an offensive bloody ichor, filling almost the entire canal; loss of the cancelli, with a bloody fungus, filling the medullary canal like a stopper; looseness of adhesion of the muscles to the bones, to such an extent as that separation could be effected by the handle of the scalpel or by the finger; the whole neighbourhood of the fractured bone of a greasy unhealthy appearance; and, finally, necrosis, or complete death of the bone, with deposition of new osseous matter; the deposition being irregular, distorting the limb to a great degree, and evidently unhealthy.'

Mr Hennen successfully espouses the cause of short cut ligatures against Mr Guthrie, having experience on his side in opposition to opinion.

'The campaign of Waterloo furnished me with many additional proofs of the excellence of this plan; and whatever may be the intention, whether to heal the wound or not, I now never hesitate about cutting short the ends of the ligatures. A single thread, well waxed, (or at most two), is quite sufficient for any ligature; the artery should be well drawn out from its sheath, and the ligature placed as high as possible. The natural retraction of the vessel will in most in-

stances carry it out of sight; and unless gangrene or excessive sloughing take place, it will frequently never more be heard of, and I verily believe never will do harm.'

The merit of the discovery, it appears, is due to Dr Maxwell of Dumfries, who has continued to use them since 1798.

Throughout the whole of this practical volume, the advantages, we may almost say the necessity, of venesection and depletion, are made most manifest. In almost every curable case, the effect of excitement is chiefly to be dreaded, and chiefly to be counteracted; and it is very seldom that stimuli, or strengthening diet as it is called, is required as useful, even in cases of the greatest debility from the mere abstraction of stimuli, as in profuse hæmorrhagy. A mouthful of wine to get the better of syncope, is all that is to be allowed. Rest, quiet, mild and moderate nourishment, will complete the recovery of the patient.

On the subject of hospital fever, Mr Hennen is extremely short; but we heartily join with him in hoping that some of the army physicians, who served in the peninsula, will give us a detailed history of it as it occurred in that country. Although he seems to have no doubt of the contagious nature of the fever to which he gives the name of typhus, yet he places his chief reliance on pure air, and is a decided enemy to fumigations.

'Some of the villages in Portugal, which had been occupied as hospitals during the peninsular campaigns, became so saturated with contagion, that a few hours residence insured to many a paroxysm of headach or fever, if a copious, bilious vomiting, or diarrhœa, did not prevent its accession. The inefficiency of fumigations is now pretty generally acknowledged by their most sanguine admirers. Where I have lately employed them, it has been more from a compliance with custom, than from any conviction of their utility. That some of them correct the fetor of the discharges from suppurating surfaces, is well known, and in such cases they have their merits; and if they cheer the spirits of the wounded, or tend to promote the circulation of air, they are not to be entirely rejected; but where they, in the slightest degree, interfere with thorough ventilation, or cleanliness, they must be hurtful. A very striking proof of the inefficacy of the process of Guyton Morveau, for purifying infected air, or obviating contagion, was mentioned to me in conversation some time since, by a learned and industrious professor. In his examinations of several of the continental establishments, he found that one of the earliest victims to a contagious fever, which raged at the principal hospital of a large capital, was the man who 'ex officio' fumigated all the wards, and respired scarcely any thing else but a medicated atmosphere.' pp. 220, 221.

The fact to which he here alludes occurred at Torgau; and although nearly correct, yet, in a question of this kind, much re-

liance is not to be placed on a single case, however apparently decisive. It is from an extensive and multiplied experience that we are to expect the true solution of our doubts; and Mr Hennen, perhaps, should have stated the result of the whole experiment rather than an isolated fact; especially at the present time, when there is so much alarm in this country concerning the prevalence of fever, and so much anxiety about the means of preventing it. The experiment was made upon a very large scale, and with the utmost accuracy and impartiality at Torgau, under the superintendence of Dr Graefe, Surgeon General of the Prussian army, and is well described in detail by Dr Richter. Three nearly similar wards were selected, each containing 40 beds; and No. 1. was fumigated with muriatic acid; No. 2. with oxymuriatic acid; and No. 3. with nitric acid. The fumigation was repeated with closed windows every two hours, so as to keep up constantly a slight acid smell, but so as not to excite coughing in healthy lungs. The experiment was continued for six weeks; and the whole circumstances were daily recorded, with the accuracy, regularity, and minuteness which are so praiseworthy in military hospitals. In No. 1. two of the attendants were infected, and six patients died: in No. 2. one; and in No. 3. three attendants were infected; and, what is very remarkable, a young man, whose only business was to diffuse the nitrous fumes. In each of these wards seven died. To enable us to draw a satisfactory conclusion, however, we should have known the proportion of attendants infected in nearly similar wards, which were merely well ventilated, and which were kept equally clean and well regulated. From every thing which Dr Richter has said on the subject, we are warranted to infer, that he believed in the efficacy of fumigation. Thus he says,

'In order if possible to obtain some results on the prevention of contagion by the said vapours, there were placed in a fourth ward ten typhus patients of the worst description, in whom putrid symptoms were particularly predominant, together with thirty other patients labouring under various complaints, syphilis, scabies, chronic pulmonary affections, wounds and dysenteric diarrhœa, and the oxymuriatic fumigations made with great regularity and accuracy. The result was here certainly *very favourable*; for, of these 30 patients, only one itch patient caught typhus. It must, however, be mentioned, that also in this ward the order, cleanliness, and good treatment of the sick were exemplary.'

In another place he says,

'Among the different kinds of acid fumigations, the oxymuriatic, without doubt, deserve the preference for the inhabited wards, because they in no respect have any hurtful effect on either the sick or the healthy, and are evolved most steadily, so that it is easiest to maintain in the wards a pleasant sourish smell. Perhaps, however, the muri-

atic acid fumigations, on account of their greater sharpness and very quick evolution, are more effectual for destroying the contagion on clothes and other substances in fumigating rooms. The nitrous acid fumes are to be rejected in every case.'

Strong, however, as this evidence may seem in favour of fumigations, it is greatly reduced by what follows. Dr Richter tells us, that

'even (his favourite) oxymuriatic acid fumigations acted prejudicially on all breast complaints, and, therefore, are not applicable in an epidemic accompanied with inflammatory pulmonary affections. This was in fact the case in Torgau towards spring, especially among the Prussians. Almost every typhous patient had some peripneumonic affection; and on this account, in the Prussian hospitals, the acid fumigations could only be employed with great precaution, and at last were laid entirely aside.'

But this is not all: Dr Richter was desirous of discovering a fumigation which might destroy the contagion without injuring the lungs; and he expected, for what reason we know not, to find these properties in camphor. Camphor fumigations were accordingly tried, and with remarkable success.

'That they also truly involve, render inactive, or destroy the typhous contagion, and are, therefore, capable of preventing infection, and the farther spreading of the disease, the observations made in Torgau seemed to prove in the most striking manner. For they were employed in the Prussian hospitals, with the worst typhous patients, who mostly were affected with the highest degree of its putrid modification, and covered with petechiæ, with such extraordinary success, that not a single case occurred of infection taking place in the wards of these patients.'

Such was, we have no doubt, the fact; but a great deal of information is still wanting to make us acquiesce in the conclusion, that camphor has the direct power of rendering contagion inactive.

Since we have said so much upon the subject of fumigation, we shall mention another form of it, whose employment is to us new. Dr Richter was led, from observing the bad effects of acid fumigations in pulmonary complaints, to try in them the inhalation of ammoniacal gas, by decomposing in the wards a solution of sal ammoniac by quicklime.

'The effects upon patients were in fact most striking; the respiration previously short, quick, and very confined, became slower and more free, and also the quickness of the pulse was lessened, without any exception, at least five, often even ten or twelve beats in a minute; and the short quick respiration, and the quick pulse did not return

until the fumes were entirely dissipated. Several patients found themselves actually much relieved by the continued use of these ammoniacal vapours, although their complaint was too far advanced to be radically cured.'

We meant to have noticed Mr Hennen's Observations on Hospital Gangrene; but we shall have an opportunity of speaking of it at more length in the next Number, when we intend to review Mr Blackadder's recent publication on this very interesting subject.

III.

Medico-Chirurgical Transactions. Volume VIII. 8vo. London, 1817. pp. 617.

We have so often borne testimony to the value of these Transactions, that it is sufficient for us, on the present occasion, to say, that the volume now before us is equal to any of those which have preceded it.

If we were to attempt either to extract every observation that is valuable in it, or to point out the particular merits or deficiencies of each paper, or to set down all that their perusal has suggested to us, the space which we can spare for critical analysis in a single Number would not suffice; while, to select one or two communications either for praise or censure, would be partial and unjust. We shall therefore content ourselves with giving little more than an arranged view of the subjects treated of, which may serve to facilitate its consultation; while we earnestly recommend to our readers to give these volumes a place in their own libraries, or at least to recommend them to the library of some public institution to which they may have access.

Connected with operative surgery, Mr Lawrence communicates in No. 18. "Farther Observations on the Ligature of Arteries; to which is added, a Case of Popliteal Aneurism, attended with some unusual circumstances." 490–502.; confirming the advantages of short cut small silk ligatures for securing arteries, having constantly employed them both in his hospital and private practice, without any unpleasant occurrence, since his first communication on the subject in 1815.

Mr Astley Cooper details "three cases of calculi removed from the urethra without the use of cutting instruments," p. 427

to 434, by dilating the female urethra with a sponge tent, in the manner recommended by Mr Thomas. In the adult, the dilatation may be affected in 24 hours; but in the child it should be more gradual.

Mr Samuel Cooper relates 'a case of lithotomy, with a few remarks on the best mode of making the incision in the lateral operation,' pp. 206—224. His object is to recommend making the whole incision in a straight regular direct manner, from the surface of the skin in the perinæum, to the termination of the wound in the urethra and bladder.

Dr Quarrier's 'Report of the state of the wounded on board the Leander, in the action before Algiers,' pp. 1–12, is extremely interesting, and presents us with a very vivid picture of the almost overwhelming difficulties which naval surgeons have to contend with after a severe action. That with such inadequate means they are able to overcome them, reflects the highest credit on their zeal and practical skill. When a fleet is sent on a desperate service, of short duration, might they not be supplied with supernumerary surgical officers, and additional accommodation for the wounded? Dr Quarrier is an advocate for immediate amputation, and against attempting to save limbs fractured by shot.

Mr Goodlad has sent 'additional observations' on the case where he tied the carotid to facilitate the removal of a large tumour on the face and neck. The tumour returned, and at last carried off the patient; but the propriety of the proposal to tie the carotid as a preliminary step to neck-operations, is not at all opposed by the unfortunate termination of the case.

Mr Charles Lane gives the 'History of a Case of ill-conditioned ulcer of the tongue, successfully treated by arsenic,' pp. 201–205; chiefly used internally with the antiphlogistic regimen.

Mr Richard Blagden relates a 'case of fatal hæmorrhage from the extraction of a tooth,' arising from a peculiar state of the arteries. The common carotid was tied in vain. After death, the coats of the smaller arteries appeared thin, and nearly transparent, while the carotid exhibited those white opaque spots which indicate a tendency to ossification.

Mr James Wardrop, 246–251, and Mr John Pearson, 252–271, have given cases of severe symptoms arising from an affection of the nerves of a finger. The latter case, which came on spontaneously, yielded to the application of an ointment of about two ounces of olive oil, one ounce of oil of turpentine, and a drachm of sulphuric acid, which produced great cutaneous inflammation of the limb, with a vesicular eruption, extending

even to the face and breast. Mr Pearson, who discusses the subject generally, says, that he never saw any real benefit from dividing a branch of a nerve in either the upper or lower extremities, unless in those cases where the agency of a mechanical cause, or some well defined change of structure, existed. In Mr Wardrop's case, the affections arose from a prick with a gooseberry thorn, and was cured by amputating the finger; and Mr W. recommends amputation in such cases in preference to dividing the nerve.

Mr Howship has inserted in this volume two very valuable papers on surgical pathology. 'Observations on the morbid structure of bones, and an attempt at an arrangement of their diseases,' pp. 57–108; and 'On the formation of new joints,' pp. 515–525, illustrated by engravings. These papers do not admit of abridgment. We shall only extract Mr Howship's classification of diseases of the bones, for the consideration of Nosologists.

'1. Alteration of external figure, not arising from general swelling, but most commonly from a deposite of newly formed ossific matter, upon the surface of the bone.' p. 70.

'2. Enlargement, from swelling of the original substance of the bone.' p. 71.

'3. Enlargement of bone, connected with an increased interstitial deposite of ossific matter, producing a more dense and compact texture than natural, as happens in healthy ossific inflammation.' p. 72.

'4. Enlargement more or less perceptible, with a disposition to absorption and disorganization of bone, either operating from the internal or medullary cavity, when the parts of the bone are progressively separated and absorbed; or acting upon the external surface, when a succession of superficial exfoliations are thrown off.' p. 74.

'5. Absorption, without enlargement; a consequence of peculiar excitement, more or less diffused through the general structure of the large bones, tending to weaken their sides, and render them liable to fracture from slight causes.' p. 75.

'6. Change in the figure of adult bone, from absorption removing in succession the more internal parts of the structure, weakening the general fabric, and rendering it by degrees incapable of supporting the weight of the body, or the action of the muscles.' p. 77.

'7. Partial death, or necrosis, of bone; sometimes the result of inflammation and abscess within the bone, but most frequently the consequence of disease in the soft parts covering it.' p. 78.

'8. Change in the figure of growing bone; dependent upon the more or less perfect removal of the phosphate of lime from the ossific texture, the organization of the bone in other respects being unaltered.' p. 79.

'9. Loss of firmness, with absorption and disorganization of bone; induced by a depraved state of constitution, in some instances nearly

allied to scurvy, and connected with decomposition of the gelatin of the ossific texture.' p. 79.

Mr Langstaff has a long paper containing 'Cases of Fungus Hæmatodes, with observations,' pp. 272—305, with an appendix, containing two cases of analogous affections, by Mr Lawrence, pp. 306—314. The dissections are valuable; but, unfortunately, they confirm the established opinion of the intractable nature of the disease, as it generally affects many organs at the same time.

The subject of hernia cerebri is discussed at some length, by Mr Edward Stanley, pp. 12—50. He has also given a plate, which proves, that the protruded mass consists of brain unaltered in structure; but the cause of the frequency of this occurrency in cases where there is considerable loss of skull, is not yet satisfactorily made out.

Dr Baron's case of rupture of the brain and its membranes, is interesting, as it furnishes a decided case of distention of the head, caused by water within the ventricles.

We think Dr Crampton's case of 'rupture of the stomach, and escape of its contents into the cavity of the abdomen,' with the 'additional observations,' by Mr Travers, particularly important in their application to forensic medicine, as pointing out another affection, which bears a striking resemblance to death from corrosive poison, and, indeed, is not to be readily distinguished from it, where the moral proofs that poison could not have been swallowed are wanting; or, when the physical proof of finding the poison in the contents of the stomach is not obtained.

'Some (nine) cases of disease of the heart, with an inquiry into their nature and causes,' by Mr James, pp. 434—489. Every addition to our collection of facts, regarding the alterations of the heart induced by disease, is highly valuable; but we must confess we are by no means satisfied with the arguments here brought forward, to prove that 'alterations taking place in the minute vessels of the body, (the nutrient and secreting), is a chief and principal cause of diseases of the heart.'

'A case of extra-uterine fœtus, contained in the Fallopian tube, with some observations,' pp. 502—506, is very briefly but satisfactorily narrated by Mr Langstaff. It is the counterpart of a case inserted by him in the preceding volume; and we are not of those who think 'that the relation of such cases is not of any practical utility, and does not tend to throw light on the physiology of conception.' Let no one be deterred from the acquisition and communication of knowledge, because he cannot give a satisfactory answer to the *cui bono* of those who know not how to appreciate their labours.

Dr Albers of Bremen communicates the 'history of a woman who bore a seven months fœtus seven years, was delivered of it per anum, and completely recovered,' pp. 507—514. The fœtus was probably extra-uterine, and was killed by a fall of the mother down stairs. There are only four ways by which the remains of such a fœtus has been known to be discharged, 1*st*, through some part of the abdomen; 2*d*, by the intestinal canal; 3*d*, by the vagina; and, 4*th*, by the urinary bladder.

Dr Holland has given a history of that very singular disease, endemic in the plains on the north of the Po, called Pellagra by the natives, and Ichthyosis pellagra by Alibert; but Dr Holland thinks it has more resemblance to an inveterate degree of psoriasis or lepra vulgaris. It was not described until the middle of the 18th century; but, since that time, its progress has become most alarming and destructive. It is generally ascribed to the poverty and bad food of the people; but the effects seem to be too local to arise from so general a cause. As the cutaneous affection has in itself nothing very striking unconnected with the mental disease which succeeds to it, we must look for *pellagrosi* in the madhouses where the poor are confined, and endeavour to trace whether their melancholia was preceded by any eruption. But, for more information on this subject, we may refer to a very elaborate paper by Levacher de Lafeutrie, in the sixth volume of the *Memoires de la Société Médicale d'Emulation*, Paris, 1816, and to the concise but excellent description of it by Joseph Frank, who was long professor of clinical medicine at Pavia, where it prevails, in the second volume of his Praxeos Medicæ Universæ præcepta, published at Leipsic, 1815.

The next two papers are on the treatment of syphilis without mercury; a subject on which we have already been enabled to lay most important information before our readers, and upon which we hope to present them with further observations. 'Observations on the treatment of Syphilis, with an account of several cases of that disease, in which a cure was effected without mercury,'—by Mr Rose, Surgeon to the Coldstream Guards, pp. 349, 426; and 'Observations on the treatment of the Venereal disease without Mercury,'—by Mr Guthrie, deputy inspector of military hospitals.' pp. 550, 581.

Dr Fergusson has inserted a very long paper, with an appendix, containing 'An inquiry into the origin and nature of the Yellow Fever, as it lately appeared in the West Indies, with official documents relating to the subject.' pp. 108, 172, and 585, 593.

'On the internal and external use of the nitro-muriatic acid,

in the cure of diseases;'—by H. Scott, M. D. pp. 173—200. Upon this subject we have but to say, that we have tried the nitro-muriatic bath without any effect whatever, and that we would not consider ourselves as justified in trusting the treatment of any serious affection to so inefficient a practice.

Dr Marcet gives a short appendix to his paper, inserted in last volume, on the use of extract of stramonium, which contains some very valuable information on the mode of preparing that extract, so as to have it of uniform strength. Indeed, we wish Mr Hudson, or others equally qualified, would impart to us, from time to time, the observations they make concerning the preparations and compositions of medicines; for it is only to practical apothecaries that we can now look for improvements in pharmaceutical chemistry.

'Observations on the nature of some of the proximate principles of the urine, with a few remarks upon the means of preventing those diseases connected with a morbid state of that fluid.' By Dr Prout. pp. 526—549.

This is a very excellent paper in every point of view.

IV.

Copy of the Report to the Secretary of State, from the National Vaccine Establishment; dated 9th April 1818. pp. 3, folio.

Account of an Epidemic Small-Pox, which occurred in Cupar in Fife, in the Spring of 1817; *and the degree of protecting Influence which Vaccination afforded; accompanied with practical Inferences and Observations.* By HENRY DEWAR, M. D. F. R. S. E. and Fellow of the Royal College of Physicians of Edinburgh. pp. 38, 8vo. Cupar, 1817.

The History and Practice of Vaccination. By JAMES MOORE, Director of the National Vaccine Establishment, Surgeon of the Second Regiment of Life Guards, and Member of the Royal College of Surgeons in London. pp. 300, 8vo. London, 1817.

JOHN WALKER'S *Reply to* JAMES MOORE, *on his Mis-statements respecting the Vaccine Establishments in the Metropolis, and their Officers or Servants, both living and dead.* pp. 110, 8vo, London, 1818.

To these titles we might add a great many more, but they are sufficient for our purpose. Nobody will accuse us of being *Antivaccinists;* yet we must confess, that we have always been disappointed by the Reports of the National Vaccine Establishment, and the manner in which they pass over the most important questions, the discussion and determination of which we consider a chief object of their appointment. In the Report for 1816, they admit, that 'various instances occurred of patients having had small-pox after they had been vaccinated;' and in that for 1817, 'they feel it their duty frankly to state, that accounts are occasionally received of failures in vaccination.' Yet having been compelled by indubitable facts to give this shock to the confidence of the public, which had been taught to expect perfect and permanent protection against the contagion of small-pox, they dismiss the subject in four short paragraphs, for three of which they are indebted to the better directed inquiries of the Directors of the Cow-pock Institution at Dublin, founded under the patronage of the Lord Lieutenant.

'The result of this investigation has been published, and is highly satisfactory. It is therein mentioned, that "several cases of supposed small-pox, after vaccination, had come under the notice of the directors in various parts of Dublin. In by far the greater number, the eruption began to decline on the sixth or seventh day from its appearance; and although the eruptive fever was violent in many, none suffered secondary or symptomatic fever on the decline of the pustules, as is usual in severe small-pox: no lives were in danger; no bad marks or disfiguration of the face ensued."' p. 2.

All this we believe to be strictly true as to the mere fact; but it suggests much matter for serious reflection and severe inquiry, and, let us add, for an explanation and exposition of circumstances, that would occupy ten times the number of pages to which the Vaccine Establishment limit their Report.

1st, In what proportion do failures occur? In the Report of 1816, the Vaccine Establishment stated, that at their stations 24,69 persons had been vaccinated, and that hitherto it had been intimated, that only four had the small-pox. But this by no means proves what the real number of failures was. That they were many times more frequent, we have no doubt; and it is incumbent on the Institution to discover a method of determining this question fairly, and to communicate the result to the public.

2d, To what is it owing that vaccination proves a preventive of small-pox in some cases, and fails in others? Is it owing to the constitution of the individual? Is it owing to the vaccine virus with which they are inoculated? Is it owing to the man-

ner of vaccination? Is it owing to the progress and treatment of the cow-pox? We have no doubt that the constitution of the individual has some influence; for not only in the early disputed instances of failure did more than one generally occur in one family, but now we have seen failures run through whole families, the individuals of which were vaccinated at different times, and by different practitioners.

In the Report for 1816, the Establishment declared their opinion, 'that the failures were owing to the employment of lymph in succession, from a vesicle which had not gone through its stages with perfect regularity, and that even the imperfect vaccine vesicle thus produced, has very generally the power of rendering the human frame susceptible of none but the mitigated form of small-pox.' This may be true, and it is a point which admits of direct proof. Until, however, the Establishment submit the proofs for our consideration, we shall take the liberty to look upon it as a mere conjecture. We know the danger of trusting to analogy in such questions; but this opinion is contrary to the analogy of the other exanthematic fevers; and an opinion contrary to general analogy should be received with the utmost caution. Indeed, so far as our experience goes, the opinion of the Establishment is erroneous; for we have seen failures in cases, where the greatest attention was paid to the selection of the lymph, both in private, and in public institutions.

The Establishment lay great stress upon the mode of conducting the vaccination. 'It has been found, that almost all the subjects of these cases (failures) have been vaccinated by methods less effectual than those which have been adopted and inculcated by this Establishment.' If this be the result of the investigation, it must have been conducted on a very limited scale, and by very prejudiced people. We are perfectly aware, that by improper treatment, by accident, and by puncturing the vaccine vesicle too freely, enough of the virus to affect and secure the constitution, will not be left to be absorbed; but we know that many cases of failure have occurred in individuals vaccinated by the most able surgeons, and in the most approved methods.

3. How does the degree of protection differ? Is it absolute in any case? Are there cases in which it is capable of resisting the most powerful application of the variolous virus, while others are susceptible of its slightest application? or, do the degrees of protection pass insensibly into each other, from the highest to the lowest? As we have not experience enough to give an opinion on this question, we look to the Establishment for its solution; but we are rather inclined to think, that the degrees of protection are infinite, and pass insensibly into each other.

4. Does the protection originally given gradually wear out as to susceptibility of infection? From the greater number of failures in those who have been some years vaccinated, there is strong reason to believe that it does; but it would require the means of a Public Establishment, to be able to ascertain the fact accurately, and discover the ratio in which the protecting influence of vaccination declines.

5. Does the protection originally given, gradually wear out, as to the power of modifying subsequent small-pox, or does it originally differ in degree?

6. In what respects do the powers of vaccination in modifying subsequent small-pox differ from those of natural and of inoculated small-pox?

Many other interesting questions might be stated; but this will serve as a specimen of the kind of investigation which we have a right to expect from an Establishment to the support of which we and our brethren of the profession contribute, in common with the rest of the public. *

As, however, we cannot trust to the National Establishment for benefiting by the advice of an obscure reviewer, we shall venture to give a summary of our present belief in regard to vaccination.

1. Vaccination seems to afford perfect and permanent protection against small-pox infection in a large proportion of cases.

2. In some instances, it only affords imperfect protection; or there are instances in which, from variolous infection, a modified small-pox is produced.

3. In some instances, it seems to afford only temporary protection; or there are persons who, after having repeatedly been exposed to variolous infection, are at last infected by it, and pass through the disease in a modified form.

4. In the small-pox modified by previous vaccination, the eruptive fever is often severe, the eruption sometimes numerous and general, in some cases even confluent; but the pustules are small-

* We are the more satisfied that we make no unreasonable requisition upon the Public Establishment, when we consider how much has been done by individuals. An inaugural dissertation, published at this University in 1814, by Dr Adams, gives a very valuable history of failures at Forfar; Dr Dewar has examined those in Fife; and, in the present number of this Journal, the Report of the New Town Dispensary, which we had not read when these remarks were sent to press, investigates some cases which occurred in Edinburgh, in an able and candid manner. The materials furnished by these, and similar local inquiries, which should receive every encouragement, the Vaccine Establishment should assiduously collect, arrange, and analyze; so that at last, by accumulating the experience of a series of years, our knowledge of this interesting subject may be rendered almost perfect, and nothing left doubtful that observation can determine.

er, and dry up on the sixth and seventh day, without secondary fever.

5. This modified small-pox is capable of infecting others, both by inoculation and naturally. It produces modified small-pox in persons previously imperfectly protected by vaccination, and regular small-pox in those who have neither been vaccinated nor had the small-pox.

6. In some instances, persons who have previously had the small-pox, whether from inoculation or infection, have had a second attack of small-pox, similarly modified, from exposure to variolous infection, or from variolous inoculation.

Before we conclude, we must, in justice to ourselves, pay the *amende honorable* to Mr Brown of Musselburgh, whose opinions we strenuously controverted in 1809, because we did not think them supported by the evidence then brought forward, or consistent with our knowledge of vaccination at that time; and to which we now, in 1818, confess ourselves partly converts, in consequence of increased experience and observation.

V.

Practical Observations in Surgery and Morbid Anatomy. Illustrated by Cases. With Dissections and Engravings. By JOHN HOWSHIP, Member of the Royal College of Surgeons in London, and of the Medico-Chirurgical Society. Lond. 1816, 8vo. pp. 494.

THIS is a very valuable volume in every respect. The figures in the plates are much reduced, but are well and clearly executed from drawings by the author; and the text is worthy of the plates.

Mr Howship has studied, with great zeal and success, the derangements of structure which are the effects of disease; and, in this volume, imparts a great deal of valuable information, and in a manner which satisfies us that the author has acquired 'principles of right conduct and integrity, as well as those relating to knowledge in his profession.'

'I have for many years been in the habit of paying particular attention to cases, and watching at the bedside the changes of diseases; preserving notes of whatever seemed worthy of recollection, and constantly availing myself of every opportunity that offered, for acquiring further light by the examination of the parts after death.

'These, however, are by no means the only advantages I have possessed, having been permitted to avail myself of sources of information much more interesting and valuable, in the selection of such cases and appearances of disease as were most to my purpose, from the extensive preparations, with their histories, preserved in Mr Heaviside's invaluable museum, with the care of which I have for many years been entrusted.'

Mr Heaviside and Mr Howship, as master and pupil, reflect credit on each other.

The plan of this book is very simple. It treats, in succession, of diseases of the head, neck, thorax, abdomen, organs of generation, lumbar abscess, hip-disease, and bones. Our space does not permit us to go over the variety of curious subjects treated of in this comprehensive volume; and we shall confine ourselves to a mere enumeration of what is represented in the plates. The first contains three figures: The section of an encysted tumour of the scalp which affected vision; an anchylosis of the maxillary bones, the consequence of scrofulous inflammation of the face; and an immense exostosis produced by disease in the maxillary antrum. The second plate contains four figures: Ossific tumours connected with the maxillary bones, arising from cold; malformation of the bones of the face; necrosed portion of the lower jaw; and an exfoliation from the lower jaw. Plate 3d contains three figures: A case of congenital hydrocephalus internus; diseased auricular valve; and a nail which had dropt into the trachea, and was subsequently rejected. Plate 4th, three figures: Preternatural openings in the mesentery, through one of which a fatal strangulation of the intestine took place; femoral hernia, with prolapsus and inversion of intestine; singular agglutination of the small intestines by the effusion of coagulable lymph, and increase of the muscular fibres of the intestine. Plate 5th, six figures: Case in which there was menstrual effusion into the substance of the uterus; bone of diseased hip-joint; carious trochanter in consequence of a blow; exfoliation from the ulna; diseased phalanx; diseased femur. Plate 6th, five figures: Exfoliation from the tibia; ossific tumour in the tibia; dislocation of the ancle, with fracture of the fibula; bones of a similar case; effect of an unreduced partial dislocation on the shoulder-joint. Plate 7th contains three examples of dislocated hip; and, Plate 8th and last, three examples of new formed joints.

The cases are concisely but satisfactorily detailed, and the application to practice of the observations made, distinctly pointed out. The volume may be almost considered as a manual of the anatomy of morbid parts; and we would recommend to the author to collect materials for an appendix or continuation, to render it still more complete.

PART III.

MEDICAL INTELLIGENCE.

REPORT of DISEASES treated at the EDINBURGH NEW TOWN DISPENSARY, from 1st March 1818 to 1st June 1818.

IN our first Report it was mentioned, that we had seen some cases of small-pox, and of another eruption approaching to the pustular orm, to which, at that time, we gave the name of varicella, occurring together in one district of the town; that this last eruption appeared, in the first instance, to be confined to the children that had been vaccinated; but that we preferred the supposition of there being two distinct contagions then operating in that district, in consequence of having observed, that in one common stair, in which the milder disease had appeared, a child who had never had either small-pox or cow-pox, took an eruption, which was dried up within five days after its appearance.

In whatever way this last fact ought to be explained, we have, since then, seen several cases of eruptive disease in persons who had been vaccinated, which we are satisfied proceeded from the contagion of small-pox. The following are the most striking instances of this kind that occurred.

1. In June last a child was admitted into the family of Murray, a porter, in Leith Wynd, in the third day of the eruption of confluent small-pox. This child recovered, but was considerably marked. On the 12th day after his admission, one of Murray's sons, aged four, vaccinated three years ago by a midwife, but in whom the areola was stated to have appeared sooner, and to have been smaller than usual, became feverish, and continued so for three days, when a numerous, though distinct, eruption appeared, which became distinctly pustular, but was formed into crusts within six days, after which the fever entirely subsided. This child had previously had an eruptive complaint, which had been called chicken-pox by a medical practitioner. Another child, eight months old, recently vaccinated by a midwife, and having a good mark on its arm, exposed to contagion in this house, had a similar, but less numerous, eruption, which ran nearly the same course, with little constitutional affection. Eight or ten children, who had been vaccinated, were fully exposed to the contagion from these cases, without taking any disease.

2. In July 1817, five children who had never been vaccinated, went through the usual course of the small-pox in a common stair in the Lotterrow. In three it was confluent, and of these one died on the 15th day of the disease. In the same stair with these, Agnes Thomson, aged 10, who had been vaccinated at the Public Dispensary when three months old, and was stated in the books of that Institution to have returned as directed, and to have gone through the disease to the satisfaction of the surgeons, was taken ill with smart febrile symptoms about the same time with the last of the five. On the 2d day of her illness an eruption appeared, which, for four days, had exactly the appearance of very confluent small-pox. After this period the fever quickly subsided, and the greater part of the eruption never advanced. A part suppurated pretty completely, and the pustules were formed into crusts in seven days from their appearance.

3. In November 1817, a child named Donaldson, in Old Assembly Close, aged 5, having a good mark on his arm from vaccination, performed when he was four months old by Mr Bell surgeon, to whom, however, he was not shown after the vaccination, took a febrile pustular eruption, after three days illness, which was supposed to be chicken-pox, from crusts being formed in five days after the eruption appeared. During his convalescence, and before all the crusts had separated, two younger children of the family, never vaccinated, were seized with confluent small-pox, and both died on the 11th and 17th days of their illness. The first child was supposed to have taken the disease from a boy in the same stair, never vaccinated, who had an eruption which was called small-pox by a medical man who attended him, and from which he is still slightly marked. Donaldson sickened during his convalescence. No other case of febrile eruptive disease could be heard of among the neighbours or acquaintances of this family.

4. In March 1818, Thomas Robinson, Toddrick's Wynd, aged 12, vaccinated, as several other children of the family were, when an infant, by the surgeon of the militia regiment in which his father then served, shown to him, as his parents state, during the progress of the cow pox, and having a good scar on his arm, was affected with severe febrile symptoms, for which he was bled, on the supposition of continued fever, but on the fourth day of which, an eruption appeared, which assumed the pustular form, and was formed into crusts in five days. It was stated that he had been exposed to the infection of small-pox by sleeping with a boy who had come from a house in Haddington, where the disease was. During his convalescence two children in the same common stair, never vaccinated, were seized with small-pox, which, in the one, was distinct, and in the other confluent, and the latter died on the 12th day of the disease. There were three other children in the family of Robinson, and several other children in the same house, who had been vaccinated, and had no complaint.

5. In White-horse Close, Canongate, and some adjoining houses, there have been this spring eleven cases of eruption, called by the

people themselves small-pox, in children not vaccinated. Of these, three were attended from the Dispensary, and several others seen, all of which were judged to be small-pox. Of the eleven, three died. A boy named James Reid, aged six years, vaccinated five years ago by the surgeon of the Edinburgh militia, in which his father then served, and who vaccinated four other children of the family, stated to have been shown to him regularly during the progress of the cow-pox, and having a good mark on his arm, certainly exposed to contagion from several of the above cases, was seized about the 10th of April with febrile symptoms, on the 4th day of which an eruption appeared, exactly resembling numerous but distinct small-pox, excepting in this, that the pustules began to form crusts on the 6th day after their appearance. His fever, which had been considerable, left him entirely after this time. No other child in this neighbourhood, who had been vaccinated, was affected, as far as we could learn, with any febrile eruptive complaint.

6. On the 15th of April, John Newlands, at Orchardfield, aged 9, vaccinated eight years ago at Haddington, and shown to the surgeon who vaccinated him at the time when his arm was inflamed, who pronounced the appearance satisfactory, and took matter from him to inoculate others, was seen affected with a pustular eruption, which was filled up, but not crusted; it was thinly scattered, and he had little fever. It had appeared on the 12th, after three days of well marked indisposition. On the 17th it was crusted, and he was free from complaints. On the upper flat of the same house was a girl, never vaccinated, who had marks on her face exactly such as are left by small-pox slightly confluent. She had been taken ill four weeks before; and her parents stated, that the eruption in her had not crusted till the 9th day from its appearance. In the same bed with John Newlands, on the 15th, lay his younger sister, never vaccinated, ill for three days with fever, headach, and frequent vomiting. The eruption appeared on her that night, and ran precisely the course of numerous but hardly confluent small-pox. Several other children, who had been vaccinated, were fully exposed to contagion from these three: but no other case of eruptive disease occurred.

7. William, Mary, and Barbara Pae, at Broughton, were vaccinated when infants, 15, 12, and 8 years ago, the two former by a surgeon at Inverkeithing, who saw them both during the progress of the cow-pox, and was satisfied with it; the last by a midwife. They have all distinct scars on their arms; but that on the eldest girl's is smaller than usual. James and John, aged 5 and 3, were never vaccinated. On the 1st of April, after three days of slight indisposition, a pustular eruption appeared on William, which was formed into crusts on the 6th, was thinly scattered over the body, and gave hardly any inconvenience. On the 4th, Mary, Barbara, and James, were all seized with the usual febrile symptoms; and on the morning of the 7th an eruption appeared in them all, distinct in Mary, confluent in Barbara and James. John was taken ill on the 5th; and the erup-

tion in him was first seen on the morning of the 8th, and was likewise confluent. In the two girls, the eruption was formed into crusts on the 12th, and there was no fever after this time. In James, it was crusted on the 14th, and in John on the 15th; and there was severe secondary fever in both as late as the 19th and 20th, and both are considerably marked. These children were seen by Drs Monro and Thomson, and by Messrs Bryce, Joseph Bell, and William Wood, surgeons, who were satisfied that the disease was small-pox in the two boys. Mr Wood took matter from one of them to inoculate some children previously vaccinated, and has favoured us with an account of the result of that experiment, which we subjoin. Three other children, who had been vaccinated, and were exposed to contagion from this family, had a febrile eruptive complaint, one only of whom was seen by us. In her the eruption had come out after three days of fever, and had lasted seven days when she was seen. It was slightly confluent on the face, and almost exactly similar to the eruption in the other confluent cases after vaccination at the same period. The fever was almost gone; and only part of the eruption had suppurated. This girl was 15 years old, and had been vaccinated when an infant by a medical practitioner, who saw and was satisfied with the progress of the cow-pox.

8. The four eldest children of Bartholomew Cairns, in Stevenlaw's Close, were vaccinated 12, 10, 8, and 5 years ago; the two eldest, and the fourth, by the hospital serjeant of the veteran battalion to which he belonged, the third by the surgeon. The parents state, that they were all shown at the times directed, and matter taken from them all. The fifth child was vaccinated in 1816 at the Public Dispensary, and the sixth in 1817 at the New Town Dispensary; and both were declared to have gone regularly through the disease. All the children have distinct and nearly similar marks on their arms. The elder children had a complaint before, which a medical man called chicken-pox.

The second son appears to have been exposed repeatedly to the contagion of small-pox by playing in a narrow close off the Grassmarket, where there were several cases of that disease. He became feverish on April 23d, and after three days a numerous but distinct eruption appeared, which suppurated partially and imperfectly, and was formed into crusts in five days. During his convalescence, the first and third children sickened, and an eruption appeared in both after three days. In the younger its course was precisely like the former. In the elder the eruption was confluent, and the maturation more complete, and the crusts on the face did not form till the 6th day. The two youngest children were next affected; in each of them, after three days of slight fever, a few small pustules appeared, which were formed into little horny crusts in three days. The last affected was the fourth child, in whom, after a similar indisposition, a red efflorescence appeared, pretty extensively diffused over the face, arms, and legs, and slightly elevated above the skin. This rash vanished entirely within

thirty-six hours, and its nature must therefore be considered uncertain.

There are two obvious sources of fallacy connected with such observations. *First*, It may be said, that the disease in all the cases was not small-pox, but an aggravated variety of chicken-pox. We consider ourselves entitled to set aside this supposition, not only in consequence of having observed the progress of the disease in those not vaccinated, whether it was distinct or confluent, to answer in every respect, as nearly as we could judge, to the best descriptions of small-pox, but likewise on account of the frequency of confluence and the mortality of the disease in those persons, and its limited extension among vaccinated children. In every one of the above cases, several children who had had cow-pox, were fully exposed to the contagion of what are called small-pox, without taking any complaint; and it will be seen, that about half of the cases called small-pox were confluent, and seven of them fatal.

Secondly, It may be said, that these were instances of the accidental concurrence of two different contagions, and that the disease in the children that had been vaccinated was chicken-pox, although it was small-pox in those not vaccinated. To this we answer, 1*st*, That the cases of mild eruptive disease occurring along with small-pox are too frequent to have only an accidental connexion with it. 2*dly*, That this supposition would not explain the exemption of so many vaccinated children from the milder disease. 3*dly*, That this milder disease is almost exactly the same as is produced by variolous inoculation at the same time with, or within a few days after, vaccination. (See Willan on Vaccination, p. 5.) And 4*thly*, That important distinctions may be pointed out between the eruption in vaccinated persons which we describe, and the chicken-pox, such as it is described by the best authors, and such as it may often be seen in Edinburgh. In particular, the former complaint is preceded by febrile symptoms of greater severity and more determinate duration. In all the cases we have seen, except the case of Thomson, when the eruption was the most confluent of any, the eruptive fever lasted three days; it was severe, and attended generally with much headach, sometimes with delirium, and sometimes with sickness and vomiting. When the eruption appeared, it was pretty frequently, in the first instance, confluent, an occurrence certainly very rare in chicken-pox; and, when confluent, was attended more than once with swelling of the face and closing of the eyes; pimples were more elevated, and the fluid in their tops was generally later of appearing than in the chicken-pox; and there was not the same appearance of excessive crops of eruption as in the latter complaint. In the progress of the eruption, there was considerable variety. In some cases, particularly where it was distinct, it followed just the course of small-pox, the pustules showing the depression on their tops, then filling up, becoming purulent throughout, and many of them breaking and shrivelling, and forming crusts by pouring out their contents; but this process was completed in a shorter

time, and the pustules were smaller, and the matter thicker than in the true small-pox. In other cases, the pustules showed fluid only on their summits, which was less decidedly purulent, and, without breaking and discharging their contents, hardened within five or six days into little solid tubercles, with firm bases, often of a livid colour, and horny crusts on their summits, which continued for several days without alteration. And, *lastly*, there were often portions of the eruption which consisted entirely of little inflamed papulæ, set close together, gradually changing to a livid colour, but in which no fluid ever appeared. It is evidently to these two last forms of the eruption that Dr Bateman alludes, when he speaks of the "small hard tubercular form of the eruption" occasionally produced by variolous inoculation after vaccination, as "sufficiently distinct from every form of the vesicles of chicken-pox." In most of the cases of this disease, particularly in the confluent cases, different portions of the eruption assumed all the different forms just mentioned, there being complete suppuration in some parts of it, partial and imperfect suppuration only in others, and none at all in others.

These marks appear so characteristic of the disease, that, although we cannot pretend to decide upon every case of the kind that occurs, without tracing the contagion, yet we have seen several cases which we had no difficulty in considering as modified small-pox, rather than chicken-pox, although we could not ascertain their connection with any case in a person not vaccinated.

The foregoing account of the eruption, which had appeared to us to proceed from the contagion of small-pox in vaccinated persons, agrees perfectly with the description of a similar epidemic in the neighbourhood of Forfar in 1813, (where above 200 such persons were affected with it), contained in Dr Adam's Inaugural Dissertation, "Quædam de Variola et Vaccina complectens," published at Edinburgh in 1814; and likewise with the account published last year by Dr Dewar of "an Epidemic Small-pox which occurred at Cupar in Fife in the spring of 1817," where fifty-four cases were ascertained to have taken place after vaccination. And it also agrees with the account given by Dr Willan and Mr Moore of the cases of small-pox after vaccination which they had seen. (See Willan on Vaccination, p. 50, *et seq.* and Moore's History of Vaccination, pp. 77 and 106). The absence of secondary fever in such cases even when they at first appear alarming, which is remarked by all these authors, and on which Dr Dewar has so properly insisted, was strikingly exemplified in several of the cases above reported.

Both Dr Adam and Dr Dewar were satisfied, that the disease they saw in vaccinated persons proceeded from the contagion of small-pox; and Dr Adam found, 1*st*, That inoculation with the matter taken from the disease above described in a vaccinated person, produced in one case, out of five in which he tried it, well marked small-pox in a child not vaccinated, and in two others a pustular eruption of shorter duration; and, 2*dly*, That inoculation with matter of small-pox produced in three vaccinated children, out of fifteen on whom he tried it,

an eruption which he says differed in nothing but its smaller size from the disease under consideration. *

If it be considered as ascertained, that this febrile eruption in vaccinated persons, is a variety of small-pox modified by the previous vaccination, several important questions regarding it immediately present themselves, to which the present state of our knowledge does not entitle us to return decided answers, and which ought therefore to engage the particular attention of future observers. The first of these is, whether its occurrence can be generally attributed to imperfection in the vaccination, which is considered by Dr Willan, Mr Moore, Dr Bateman, and other eminent authors, probably on good evidence, as the most common cause of such partial failures. It will be observed, that there are only two cases here recorded in which there was any reason, farther than the occurrence of a subsequent eruption, for forming this supposition. With respect to all the rest, it would be an assumption perfectly gratuitous. All the children whose cases are given above, had distinct, nearly circular, marks on their arms; and Mary Pae was the only one in whom this mark appeared considerably less than, or otherwise different from, those of many other children in the same or adjoining houses who escaped. In eleven of the sixteen cases, the vaccination had been performed by different respectable medical practitioners in different parts of the country; and in ten of the eleven, it was affirmed that the children had been repeatedly shown to them after vaccination, and the appearances pronounced satisfactory. In several it was distinctly stated, that the children had been vaccinated more than once, until the practitioners were satisfied with the appearances. In the only cases in which it was possible to ascertain the veracity of the statements made by the relations of the children (those of Thomson and the two youngest Cairnses), these were found to be correct. And it is still more material to remark, that, in several of the above cases, there were other children in the same or neighbouring families vaccinated by the same practitioners, and judged in like manner by them, according to the statement of the parents, to have gone through the regular stages of cow-pox, having similar marks on their arms, exposed to the same infection, and who escaped entirely. Similar observations apply to the cases of Dr Adam, who saw the disease in forty, and of Dr Dewar, who saw it in ten instances after vaccination by medical men, and appear to show, that this supposition, although it may be applicable to some cases of this disease, is not merely hypothetical, but improbable in regard to others; and they therefore suggest the propriety of practitioners who record such facts, and attribute them to imperfect vaccination, stating on what grounds they rest this supposition. It must be observed, that, on Dr Willan's principles, peculiarity of con-

* See his Thesis, pp. 34–38. This agrees with the result of similar inoculations superintended by Dr Willan. See Willan on Vaccination, pp. 5, 52, 55 & 70.

stitution must be admitted as part of the cause of variolous eruptions succeeding even what he called imperfect vaccination; for it appears from his statement, that such vaccination gave complete security in some cases which he saw, although not in others. (On Vaccination, p. 44.)

It will be of importance in the future observation of this disease, to inquire, whether it commonly affects different individuals of one family, as in the two last cases above given. In the cases seen by Drs Adam and Dewar, several instances of this kind occurred; and if the occasional occurrence of modified small-pox after vaccination is to be attributed to peculiarity of constitution, rather than to imperfect vaccination, such instances may be expected to occur frequently.

Another question of still greater interest is, Whether this modified small-pox occurs more frequently, and with greater severity, in those who have been vaccinated long previously to the exposure to the contagion, than in those recently vaccinated?

Dr Willan (on Vaccine Inoculation, pp. 66 & 72) gives his opinion decidedly against this supposition, but perhaps on too limited experience, particularly as most of the variolous eruptions which he saw, appear to have followed vaccination certainly imperfect. It is evidently possible that imperfect vaccination may give imperfect security from the first; and that perfect vaccination, in certain constitutions, may give perfect security only for a certain time; in which case, we may expect some cases at all distances of time after vaccination, but more, and severer cases, at a considerable distance.

It will be observed, that in nine of the sixteen cases here recorded, the vaccination had been at least eight years, and in three more five years previous to the disease. The three cases in the youngest children were the mildest. Out of 41 of the patients seen by Dr Dewar, whose ages are mentioned, 31 were above 8 years old; and they seem chiefly to have been vaccinated very young. Dr Adam says, in general, 'Morbus pro ætate ægrotantium multum variavit, et plerumque notatum, eos quibus jamdudum vaccinatio facta, gravissime tentasse, dum recens huic subjecti vel prorsus liberi, vel capti cæteris teniorem passi sunt.' This agrees with what was observed in the family of Cairns, last noticed above. He adds, that he had seen only one case of the disease, in a child vaccinated within two years, and that case was without constitutional affection: and he mentions one case in which this disease occurred ten years after vaccination, although inoculation with small-pox, five years after it, which produced inflammation and suppuration in the arm, had caused no eruption. But as the small-pox inoculation does not seem to have left any mark, this observation is not decisive.—Dissertatio, &c. p. 22.

Dr Adam saw some cases, however, in which vaccination had been many years previous to the attack of modified small-pox, and in which the latter was very mild. This was remarkably the case in the family of the Paes above mentioned, in which the mildest case was that of the oldest boy, vaccinated fifteen years ago. In making observations on this point, it will be right to keep in view, that the im-

portant question is not, Whether the disease soon after vaccination, or long after it, is mildest, (which must depend chiefly on its being distinct or confluent), but whether it approaches more nearly, in the former or in the latter case, to the course of the genuine small-pox?

The last important question which occurs in regard to cases of this kind, is, How far they can be considered as analogous to the cases of small-pox affecting the same individual twice? Since the public attention has been drawn to this subject by the discovery of vaccination, it has appeared, that this is not so rare an occurrence as was once thought. We have seen one case of well marked small-pox this spring, and have been informed on unquestionable authority of another, in which there was evidence, which appeared to us satisfactory, of the patient having gone through the disease before. It appears by no means unlikely, that if the contagion of small-pox can produce regular small-pox in some persons who have previously gone through the disease, it may produce in others who have gone through it, as well as in some vaccinated persons, a modified disease. The name generally given by the common people in this country to the disease we have described in vaccinated persons, is horn-pox; which implies their having observed the difference between the tubercular appearance of great part of the eruption, formerly described, and the tender vesicles of the common form of chicken-pox. The name of horn-pox has been long applied in this country to a febrile eruption, which the lower people regard as different from chicken-pox, but which has generally, we believe, been considered as a variety of that disease by the faculty. We have heard it stated by practitioners who had seen the small-pox epidemically prevalent, before the discovery of vaccination, that they had often seen cases of what was called by the common people horn-pox, occurring at the same time, but attracting little attention.

These circumstances have induced some practitioners, and particularly Mr Bryce, whose authority on this subject, must have great weight, to suspect that the disease called horn-pox, before vaccination was introduced, was often, in reality, a variety of small-pox, modified by the previous occurrence of the same disease.

It is very difficult to collect, from the older authors, such information as can enable us to judge of the probability of this. Mr Moore seems to consider the horn-pox as a variety of small-pox: "Where the pustules are very small, and the inflammation declines early, the matter coagulates, and forms what has been called the horn or watery small-pox." (History of Vaccination, p. 103.) This agrees pretty well with the description of the modified small-pox after vaccination, and likewise with the accounts of the imperfect small-pox, produced in many cases by inoculating with crude variolous matter, and to the production of which the success of the Suttons in inoculation was attributed by some of their opponents. * But it does not agree with the

* See particularly Watson's Account of a Series of Experiments on Inoculation.

representation given by Mead, * Friend, † and Van Swieten, ‡ of the danger of what they called the "pustulæ verrucosæ vel corneæ" of small-pox.

On the other hand, the "warty or stony small-pox," mentioned by Rosenstein, § and the "steen pokken," described by Van Swieten, ‖ were considered by these authors as equally distinct from the small-pox, as the "crystalline watery small-pox" of the former, or the "water pokken" of the latter, which were obviously chicken-pox; and it seems, therefore, likely that the former terms may be considered as synonymous with the conoidal varicella of Willan and Bateman.

De Haen was at much pains to show, not only that small-pox might occur twice, but that there was no reason to expect the second attack of it to be milder than the first. ¶

Morton considered chicken-pox as a mild variety of small-pox; but gave no reason for thinking that they proceeded from the same contagion; and his description of the variolæ benignæ answers much better to varicella than to modified small-pox.

It is remarkable, however, that Van Swieten mentions having seen the variolæ spuriæ (including steen pokken) occurring epidemically; sometimes along with true small-pox, and so often, very soon after it, as to have induced some physicians to consider it as proceeding from the same contagion, weakened in its activity.

It has been mentioned to us by medical friends, that the introduction of small-pox, a short time since, into two families in this town, has been followed by the appearance of a febrile pustular eruption, of short duration, in one person of each family who had been vaccinated, and in another who had had small-pox.

Dr Adam mentions having seen, during the epidemic he describes, in persons who had before had small-pox, naturally or by inoculation, one case of decided small-pox occurring for the second time; and another, of a disease very nearly resembling the modified small-pox which he saw in vaccinated persons, and four or five others of an eruption merely papular, and attended with slight fever. Dissert. &c. p. 42. The occurrence of papular or pustular eruptions, attended with little or no fever, in persons who had previously had small-pox, on a second exposure to it, is mentioned by several of the older authors,—for example, by Maitland, the first inoculator. (Account of Inoculating, &c. p. 29.) One of the first persons inoculated for the small-pox, was a man in St Thomas's Hospital, who had previously had small-pox. In him an eruption appeared, as Dr Wagstaffe asserts, "rather more fairly than in those in Newgate,"

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* De Variolis et Morbillis, p. 168.

† De Purgant. in Secund. Variol. &c. p. 66.

‡ Comm. in Aphor. 1398.

§ Diseases of Children, translated by Sparman, p. 68.

‖ Comm. in Aphor. 1381.

¶ See particularly Ratio Medendi, Pars nona, p. 125.

inoculated by Maitland. (Wagstaffe's Letter, p. 31). But, from the short duration of the eruption in this man, Maitland argued that it could not have been small-pox. A similar fact is mentioned in Mr Bryce's Essay on the Cow-pox, p. 66, where a good deal of fever preceded the eruption; and several are referred to by Dr Willan, (On Vaccine Inoculation, pp. 71 and 72). This author has likewise given a description of eruptions, preceded by febrile symptoms, which he had repeatedly seen in nurses and others employed about children with confluent small-pox; which agrees with the description of modified small-pox in every thing but this, that these eruptions seem to have stood out longer. (Ibid. p. 68.)

It is generally admitted, that chicken-pox has sometimes been taken for small-pox occurring twice in one individual, or occurring after vaccination. But it is equally possible, and such facts as we have now mentioned almost render it probable, that the opposite error may have been committed,—that small-pox, occurring for the second time, or succeeding vaccination, and modified by the previous disease, may have been sometimes taken for chicken-pox.

It seems probable, however, that if the contagion of small-pox had produced a modified disease, in those who had formerly had small-pox, as frequently as it appears lately to have done in vaccinated persons in this country, and of equal severity, that disease would have been described and distinguished from chicken-pox before this time.

In regard to any practical conclusions to be drawn from the facts hitherto known on this subject, it may be sufficient to observe, *first*, that, as far as we yet know, an immense majority of vaccinated persons, exposed to the contagion of small-pox, escape even the modified disease; and, *secondly*, that the modified disease, so far as we yet know, is much milder than inoculated small-pox.

To this we ought to add, that if the occurrence of modified small-pox after vaccination, appear to be more frequent than was suspected for some time since, as it must throw to a greater distance the prospect, lately so flattering, and which no information hitherto obtained would justify us in abandoning, of the complete extirpation of the small-pox, instead of causing any hesitation about the practice of vaccination, it ought to impress parents with a stronger feeling of the danger of neglecting to furnish their children with this nearly infallible antidote, if not against the occurrence, at least against the danger of that disease.

With the view of obtaining the most accurate information possible, of the circumstances of every case of suspicious eruption, occurring in vaccinated persons, exposed to the contagion of small-pox, we have drawn up a list of queries to be attended to in examining every case of the kind, which we subjoin, in the hope that it may save trouble to others engaged in similar inquiries. The information thus obtained, may easily be thrown into the form of a table, exhibiting, in a small compass, the number of cases of supposed modified small-pox, and the degree of evidence attending them.

After noting the name, age, and residence of the patient, we inquire,

1. When he was vaccinated, and by whom?

2. Whether the cow-pox was shown to the vaccinator, and pronounced satisfactory?

3. Whether he has a distinct oval or circular mark on his arm, and of what breadth?

4. Whether he has had any complaint called chicken-pox by a medical man?

5. How he may have been exposed to contagion?

6. What were the circumstances of the case, whence he is thought to have taken the disease?

We then state, 1. The date of attack.

2. The duration of the eruptive fever and its symptoms, particularly whether any delirium, or vomiting, or fits.

3. The symptoms on the second day of the eruption, particularly whether any vesicles of considerable size are seen.

4. The symptoms on the third day of the eruption; particularly, Whether it is confluent? Whether any of the vesicles are broken and shrivelled? Whether there are any pits on their tops? Whether they come out uniformly or in successive crops? Whether the face is swelled?

5. The symptoms on the 5th day of the eruption; particularly, Whether it is generally purulent? Whether any of the pustules are firm at the base, partially suppurated, and hardening into crusts without breaking? Whether any part of it is merely papular? Whether the eyes are closed?

Lastly, We note whether there is any fever after this time,

Note by Mr W. Wood.

Mr and Mrs ——— applied to me, lately, to know whether any steps could be taken to secure their children, who had been vaccinated, against the possibility of an attack of natural small-pox; as they were alarmed by the reports in circulation, of several children having been affected with that disease, after having gone regularly through the cow-pox. I informed them that I had met with nothing to diminish my confidence in the cow-pox. and that I thought it quite unnecessary, therefore to take any steps with regard to my own children; but that I had no objection to inoculate their family for the small-pox, if that would relieve their anxiety. Availing themselves of this offer, they requested that I might take the first opportunity of procuring small-pox matter, and performing the inoculation.

The family consists of nine children of different ages, from that of five years to 18. The two elder children were originally inoculated for *small pox* 17 or 18 years ago; their arms inflamed, and pustules were formed, at the regular period, at the places punctured; but no farther eruption took place in consequence of this circumstance, although the surgeon was satisfied that they had been properly affected with the disease. They were repeatedly afterwards re-

inoculated with *small-pox matter*, but only a topical affection was produced. Some years afterwards they were both *vaccinated;* but, as might be expected, with the effect only of producing a local pustule and irregular areola running quickly through its course. The 3*d* and 4*th* children were *vaccinated*, and went regularly through the disease; they were soon afterwards *inoculated* for *small-pox*, which was followed by a topical affection. The 5*th*, 6*th*, 7*th*, 8*th* and 9*th* children, were all *vaccinated*, and no farther steps taken with them.

I recommended that the experiment should be made of inoculating the whole nine for the small-pox at the same time; and having procured matter for the purpose, from a child pretty severely ill of that disease in its confluent form, I introduced a portion of it, in its liquid state, into one arm of each of the nine children, at two distinct points. Next day I found in all of them some redness around the punctures, which gradually extended, accompanied with some hardness of the part, till the 3*d* day. At that time, the inflammation in the arm of the 7*th* child, which had been rather less than in the others, had attained its height, and rapidly declined, so as to be entirely gone on the 4*th* day. There was left, however, a small pellucid scab over the punctures. In the other eight children, the inflammation went on gradually increasing till the 6*th* or 7*th* day, when in all of them there was a pretty regular areola, with considerable hardness of the part, and with pustules at the parts punctured, containing apparently a small quantity of fluid. Several of the children complained of considerable pain in the arm and in the axilla, where there were found lymphatic glands somewhat enlarged. The inflammation gradually and slowly subsided from the 7*th* day, and was nearly entirely gone on the 9*th*, except on the 6*th* child, in whom it continued till the 12*th* day. Over the pustules, in all of them, were formed dark brown, or rather black hard crusts, which did not drop off for many days. In none of them was there the least appearance of eruption, excepting the pustules formed by the punctures.

This experiment appears to me a very satisfactory one, not only as affording additional proof to the vast mass already accumulated, of children resisting the small-pox (when every care was taken to produce that disease if possible), at the distance of many years from the period of vaccination, but also as having afforded me an opportunity of comparing the effects resulting from the insertion of *small-pox* matter into the arms of children who had been originally inoculated for that *disease*, with those produced by the same means, in children who had gone through the *cow-pox*. The only difference I could detect in the different individuals, was a slight one in the extent of the inflammation and size of the pustules, depending probably entirely upon the state of the constitution, as it followed no regular rule as to the distance of time from the date of the vaccination or otherwise. The arms of the children who had been originally inoculated for small-pox, were precisely similar to those who had been affected with the cow-pox.

Comparative Prevalence of Fever in Edinburgh, according to the Number of Patients admitted into the Royal Infirmary during 1815, 1816, 1817, *and the first five months of* 1818.

It is to be regretted, that, previous to the year 1817, only the number of deaths from fever can be given. Since the commencement of 1817, the number of those cured is also recorded.

		Cured.	Died.	Total.	One death in
1815,			12		
1816,			12		
1817,	January	19	3	22	$7\frac{1}{3}$
	February	17	0	17	No death.
	March	18	1	19	19
	April	38	2	40	20
	May	34	4	38	$9\frac{1}{2}$
	June	26	1	27	27
	July	33	3	36	12
	August	39	3	42	14
	September	49	3	52	$17\frac{1}{3}$
	October	53	1	54	54
	November	59	6	65	$10\frac{5}{6}$
	December	93	6	99	$13\frac{1}{6}$
	Total Fever	478	33	511	$15\frac{16}{33}$

In consequence of a representation from the physicians some time last autumn, the Managers of the Royal Infirmary directed the opening of some additional wards for the reception of fever cases, by which means they were enabled to admit every fever patient who offered, until about the middle of December, when the house had become so crowded, that they were under the painful necessity of daily refusing applications for the admission of fever patients. On the 1st of January 1818, there was a total number of 236 patients in the Infirmary; and for a considerable time they greatly exceeded that number, while the average daily number of many years has been been under 170.

A representation having been made to the Lord Provost with regard to the extraordinary prevalence of contagious fever among the poor, and the inadequate accommodation for them in the Royal Infirmary, his Lordship called a meeting on the 17th of January, at which were present, besides the Magistrates, some of the Managers of the Royal Infirmary, members of the Destitute Sick Society, &c. when it was agreed that the Lord Provost should write to Lord Sidmouth for leave to occupy part of Queensberry House barracks as a temporary fever hospital. Permission was immediately granted. The Managers of the Royal Infirmary, who undertook the charge of this new establishment, exerted themselves so much, that it was opened on the 23d of February 1818.

In October 1817, the Society for the Relief of the Destitute Sick circulated a printed notice, that they had made arrangements with

the view of checking the progress of contagious fever in Edinburgh, by holding out inducements to poor people affected with fever, to go to the Infirmary, by purifying such houses, bedding, clothes, &c. as were infected.

The numbers to the end of May this year, 1818, have been as follows in both hospitals.

		Cured.		Died.		Total.	One Death in
Jan. Royal Inf.		86		7		93	$13\frac{2}{7}$
Feb. do.		90		6		96	16
March do.	91	133	5	9	96	142	$15\frac{7}{9}$
Queensb. House,	42		4		46		
April. Royal Inf.	60	131	2	6	62	137	$22\frac{1}{6}$
Queensb. House,	71		4		75		
May. Royal Inf.	44	106	2	4	46	110	$27\frac{1}{2}$
Queensb. House,	62		2		64		
Totals,		546		32		578	18

The numbers would have been greater from the middle of December 1817 to end of February 1818, if we had had room; and at the first opening of Queensberry House, we could not at once receive all the cases reported, but were obliged to take them in gradually, from the difficulties inseparable from an incipient institution.

More than once, of late, our numbers have been considerably reduced; and by comparing the last three months, it would appear that the disease was on the decrease. But more than once, when we have been disposed to flatter ourselves with these hopes, the number has again suddenly got up, as has happened during last week; for on 1st June there were only 31 patients in Queensberry House, while this day, 8th June, there are 49 in it, and in the Royal Infirmary 38. From the activity and zeal of the numerous functionaries of the D. S. S. and of other individuals, and from the knowledge they have acquired of the houses where the fever most frequently occurs, added to the increased desire of the poor themselves to send their friends to the hospitals, when affected with fever, I believe that, during the last three months, there have been few cases, either in Edinburgh, Leith, or country near Edinburgh, that have not been sent to us; and it is agreeable to observe, by the above table, that the mortality has been diminishing.

T. S.

Edinburgh, 8th June 1818.

Case of Small-pox after the Cow-pox; extracted from a Letter to the Editor, from JOHN ASTBURY, M. D. *Barlaston, Newcastle, Staffordshire.*

ON June 10th 1817, I attended a young man, aged about 18, with the small-pox, after he had been inoculated with the cow-pox ten years ago, by Mr Forster, a very sensible and attentive surgeon,

in Stone. His arm suppurated properly from the cow-pox incision, and he was considered safe from the small-pox. The young man had a very full crop of the small-pox, confluent on the hands and face, but distinct on other parts of the body; he was delirious during the eruption; they went through the regular stages, and began to turn on the 11th day; he had a sore throat, and ptyalism. Bark and fixed air were given in the secondary fever, and the young man recovered. This is the first case of small-pox, after the cow-pox, which has come under my observation.

Extract from a Letter to the Editors of the Medical and Surgical Journal.

GENTLEMEN,—The important subject introduced in your number by Dr Thomson, brings to my recollection, that a discussion on the same points by Mr Geoghegan of Dublin, engaged the public attention some years ago. Several periodical works in the year 1804, disapproved of an opinion advanced by this author, as to abstaining from mercury in primary affections, in support of which, cases of cures of suppurated bubo, and no secondary symptoms after ten months, are mentioned, no mercury having been used. He also invited the profession to institute experiments, to ascertain if mercury might be abstained from in all such cases; and insists, that when the patients are scrofulous, the remedy is as bad as the virus, and ought not to be used.* In the late work of Mr G. the merits of which have been stampt by the approbation of your liberal and impartial Journal, these points have been observed upon, *passim*; also the removal of the constitutional disease without mercury. His discrimination of cases that may be benefited by sarsaparilla alone, or by the compound decoction, are original, and of great value in practice, as they explain why these remedies are attended with such varied success. I have thought it important to the further elucidation of this interesting question, that a source of information so appropriate should be adverted to, and that, as the author experienced the censure of the press for opinions which time and experience have shown to be entitled to praise, that the press should redeem itself, and the author, by a fair exposition of the circumstances.

Société Médicale d'Emulation Séante à la Faculté de Médécine de Paris.

LA Société Médicale d'Emulation de Paris propose deux prix, de la valeur de 500 francs chacun, pour être accordés aux auteurs des meilleurs Mémoires sur les questions suivantes.

PRIX.—'Déterminer les avantages que la Médécine a retirés de 'son exercice aux armées de terre et de mer, depuis le commence-'ment des guerres de la révolution jusqu'à la paix générale.'

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* The pamphlet was entitled An Appendix to Observations on the exasperated Symptoms of the Venereal Disease.—Dublin, 1803.

PRIX.—' Quelles sont la disposition et la structure du système ' d'organes, appelés ganglions nerveux de la vie organique, nerf ' grand sympathique, grand intercostal, trisplanchnique, etc.?

' Quelles sont les fonctions de ce système?

' Et, autant que possible, quelles sont les maladies dans les quelles ' il est essentiellement affecté?' (*)

Extract of a Letter containing a Case of Trismus and Spasms of the whole Body, arising from Hysteria. By JOHN MACLEAN, M. D. Edinburgh.

JANE FORSYTH, aged 15, of a very robust frame, and sanguine temperament, having never menstruated, was suddenly seized with violent hysteric affections, attended with a degree of mental derangement, exciting her to leap upon chairs and tables, to the great alarm of the ladies, in whose family she lived.

These symptoms had continued some time when I first saw the patient. I ordered her to be secured by the servants, got her to use the pediluvium, and bled her at the ankle. This composed her for the night; but for several days afterwards she was affected with alternate fits of laughing and crying, and strong spasms of the limbs, extending to the body, which was ultimately so rigid, as to render it extremely difficult to move her. Her jaws subsequently became firmly closed, with little intermission, for two days. I directed laxative glysters to be administered, which operated slightly; a large opiate plaster to the neck, and, in the intervals of relaxation, pills of camphor and musk, but without any sensible benefit. The only remedies from which I could perceive any alleviation to the trismus and general spasms, were the semicupium, and repeated bleedings at the ankles, which at the same time apparently induced a slight degree of menstruation. Whereupon, judging the whole of the complaint to depend on the deficiency of this discharge, I ordered her the tinct. hellebori nigri, in full doses every night and morning, and the semicupium every night. Under this treatment, a copious menstruation took place; the spasmodic symptoms subsided, and in a few weeks she got perfectly well. For a considerable time afterwards, however, she was subject to hysteric paroxysms at every monthly period, but never had any return of the locked jaw. I have communicated this case the more readily, as, upon my mentioning it to Dr Gregory, he

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(*) La Société demande qu'on s'attache à répondre à cette question, d'après des dissections, des expériences et des observations bien faites, multipliées et authentiques.

Les Mémoires en réponses à ces questions devront être écrits très-lisiblement en Français ou en Latin, et arriver, *francs de port*, avant le 31 Août 1819, chez M. *Breschet*, sécrétaire-général de la Société Médicale d'Emulation de Paris, rue de la Jussienne, No. 17.

Les membres résidans sont les seuls qui n'ont pas le droit de concourir.

seemed to think it remarkable, and said it was one of the few cases he had known of locked jaw occurring from hysteria.

The occasional efficacy of the tinct. hellebori nigri, as an emmenagogue, was strikingly displayed in another case which occurred to me.

A young lady had been in a state of derangement from agitation of mind for some time; and, during several months, had entirely ceased to menstruate. I ordered the tinct. hellebori nigri to be administered in the usual doses; but the phial containing it happening to be left in her apartment, when alone, she took spontaneously the amount of two or three doses at once. The next day her menstruation was restored, she almost instantly recovered her mental faculties, and has continued well ever since.

Edinburgh, May 21, 1818.

Extract of a Letter from Mr John Campbell, Surgeon, Baildon, Yorkshire.

Gentlemen,—If you should judge the insertion of the following case, of a successful replacement of displaced teeth, in your valuable Journal, as either useful or interesting, it is very much at your service. I do not offer it as an anomalous, or a new case, but merely as an instance against the popular feeling and practice in such situations, and as a hint to practitioners not to be too hasty in extracting or destroying so valuable a part of the human frame.

Miss F. a young lady of 19, by a severe fall, entirely displaced the two superior incisores; destroyed the gum, and broke up the alveolar process. Being out on my professional engagements when called, a considerable time elapsed before I saw the patient. On my arrival, I found her friends on the point of throwing away the teeth, but from which they were fortunately dissuaded.

Having first washed the teeth and gums, I inserted the former in their proper places, and pressed down the alveolar process and gums as near as possible to their situation. I next took a piece of thick sheet lead, and bending it, so as to form a groove exactly adapted to the curvature of the teeth I had replaced, and to those contiguous on either side, I applied it to them in their new situation. Wishing to secure them still more forcibly, I enveloped the whole in a broad riband, securing it across the face with adhesive plaster, and making it fast on the top of the occipital bone. Having ordered an astringent lotion for the bruises which she had sustained on the lips and face, I gave orders that she should abstain as much as possible from mastication, or otherwise deranging the replaced teeth.

Six days after, I took off the bandages for the first time; and found, to my satisfaction, that the teeth retained their proper position, and that granulation had commenced. I again applied the bandages in case of accident.

Two days afterwards, I examined them again, and now found the gum advancing rapidly on the teeth. They were not as yet quite fast, but so much so as not to require any bandage during the day. At the end of fourteen days from the accident, I gave up bandages

entirely. On the third day after they were replaced, she complained of a considerable pain in both teeth; but this decreased gradually as they became firm. Three or four weeks after the accident, the teeth were perfectly firm; all pain removed; and, in a word, as well as they had ever been.

I may add, in addition to this case, that, when employed to draw a tooth, I very often merely raise it, so as to separate it from the nerves; then replace it; and in no instance have I had reason to remove one of those so treated, either from toothach, or from their getting loose afterwards. It will be evident, that I practise this merely with those teeth that are not at all, or not much decayed, as these alone can be useful to the patient afterwards. Yours, &c.

Lunatic Hospital at Avignon.

THIS hospital is under the management of the Lady Superior and twenty-five Sisters of the Sœurs de la Charité; a Director, his Assistant, with two or three men-servants to clean the men's ward.—Number of patients, one hundred;—average dismissed cured, ten every year.

Treatment.—It is the principle of the Director never to contradict a patient, but to appear to obey and execute his most extravagant wishes. The greater part of the patients enter this hospital with the strongest antipathies against some friend or public person; suspect a conspiracy against their lives or fortunes; and urge or plan the death or ruin of the persons exciting their resentment. The Director patiently listens to their complaints, offers to execute their orders, how and when they please, and thus quickly gains an ascendency over them. When their dress is worn out, he renews it, in form and colour precisely as they entered the hospital. They are allowed food at any hour they think proper, by night as well as by day. Plenty of water is always placed in their rooms.

One of the most difficult things is to induce them at first to keep their rooms clean. They are often apt to do every thing when it should not be. He gets the better of them by this easy management. —There is a lad, nearly an idiot, that goes about the house, and digs in the garden. When a room is dirty, immediately the Director tells the patient that he is sorry that the poor idiot has contrived, by the negligence of the Director himself, to slip into the room and dirty it. He entreats the patient to watch well that the idiot does not return. He rates and scolds the poor boy; and this, repeated two or three times, almost always induces the patient to be cleanly.

Neither strait-waistcoats, nor ropes, nor chains, are ever used. There is a long gallery, with a range of small rooms on one side, and of larger rooms opposite. An outrageous patient is merely confined in the small room, in which is a bedstead, chair, and table, all screwed to the floor, with a straw mattress and blankets; no glass is in the windows, but iron bars, and outside Venetian blinds, that can be closed so as nearly to exclude the cold air, if necessary. When the

patient is quiet, he is allowed to cross the gallery into the opposite room, while his own is cleaning out. When convalescent, the patients walk in an open gallery; in good weather in a garden; and attend regularly the chapel of the hospital.

'The great object we have always in view,' said the Director, 'is to keep the mind of the patient free from irritation, by giving him food whenever he chooses, and by appearing to obey his wishes against absent persons. We always urge, that his *bodily health* requires his remaining in our house.

'We never beat or threaten a patient, but impute, before him, any misbehaviour of his to another person. It was found difficult to get the women patients to cut their hair. As soon as we observe that they take notice of their own dress, we give them a small looking-glass, and, shortly after, persuade them it is the fashion to cut the hair short, and wear a neat cap.' Five of the Sisterhood attend daily by rotation. Meat and soups are kept warm in the kitchen night and day. Small wine is allowed the patients in moderation. Little or no medicine is used beyond common purgatives. A physician calls daily, but is not exclusively attached to the Establishment.

The Institution is supported by an estate belonging to the hospital, which escaped the confiscations under the Republican government.

The above information was communicated at Avignon, in December 1816.

Communications have been received from Drs ASTBURY and HAMILTON, and Messrs ANDERSON, HARTLE, PAXTON, and M'CLURE.

We have received for review the following publications.

Practical Illustrations of the Scarlet Fever, Measles, Pulmonary Consumptions, and Chronic Diseases, with Remarks on Sulphureous Waters, &c. By JOHN ARMSTRONG, M. D.

A Treatise which obtained the Prize on this question, 'What are the Symptoms which indicate, or contra-indicate Blood-letting in Fevers, whether Intermittent or Continued, designated under the terms, Putrid or Adynamic, Malignant or Ataxic?' Proposed by the late Academical Society of Paris, for the Meeting of 1812. By J. VAN ROTTERDAM. Translated from the French by J. TAYLOR, M. D.

Practical Observations on Continued Fever, especially that form at present existing as an Epidemic, with some Remarks on the most efficient plans for its suppression. By ROBERT GRAHAM, M. D.

Suggestions for the Relief of the Sick Poor, and the Improvement of the Medical Profession, in Great Britain. By JOHN DUNN, M. R. C. S.

A Reply, by Sir WILLIAM ADAMS, to a recent publication against him, purporting to be the Report of the Committee of the London Infirmary, for curing the diseases of the eye.

A Reply, by Sir WILLIAM ADAMS, to a Pamphlet recently published by Dr VETCH, upon the subject of the Egyptian Ophthalmia, and to other productions of a similar character.

Elémens de Chimie Médicale, Par M. P. ORFILA, Médécin par Quartier de sa Majesté Louis XVIII., &c. &c. 2 Tomes 8vo. Paris 1817.

ERRATUM.

In our last Number, JOHN ASTBURY BARLASTON is printed, p. 158, as the name of one of our correspondents, instead of JOHN ASTBURY, M. D. Barlaston, near Newcastle, Staffordshire; and the error is repeated in the head-lines of Dr ASTBURY's communication.

THE

EDINBURGH

MEDICAL AND SURGICAL JOURNAL.

1. OCTOBER 1818.

PART I.

ORIGINAL COMMUNICATIONS.

I.

An Account of the Eruptive Diseases which have lately appeared in the Military Hospitals of Edinburgh, both Naturally and after Inoculation; as they have affected Children and Adults, some of whom had previously had Small-pox, some who had been previously subjected to the Cow-pox, and others who never had either of these Diseases. Communicated in a Letter to Dr DUNCAN, jun. By JOHN HENNEN, Esq. Deputy-Inspector of Military Hospitals for North Britain.

MY DEAR SIR,—It would be an egregious piece of affectation in me did I pretend to come reluctantly before your readers on the present occasion; for both in my official, and in my domestic capacities, I am very highly interested in the determination of the question as to the nature of the diseases which I am about to describe; and I am most anxious to give their history every possible publicity, in order to collect the sentiments of unbiassed professional men, on a point of such vital importance to society, as the distinctive marks between the small-pox and the aggravated cases of chicken-pox, &c. so often confounded

with it; a distinction which may seriously involve the value of the most important of all modern medical discoveries, the Jennerian plan of counteracting the ravages of variola, and implicate the happiness and the lives of thousands in this and every other country of the globe

The following cases have already excited great curiosity; they have been seen by a large and most respectable body of private practitioners; accounts of them have been widely circulated in letters and conversations, and some of them I have, at Dr Monro's request, given to him for insertion in his work. Much error and misrepresentation may, however, have got abroad in the oral and epistolary accounts of them, and only a very few of them are to be found in the publication of Dr Monro; neither can the chain of events, both antecedent and subsequent, have been so completely kept up in his book, or in the occasional notes taken by other individuals, as I have been enabled to do, from my continued inspection of all the patients, and from my being in possession of the complete series of the hospital records, and of every other source of information which can throw light on a subject so obscure, and involved in so many difficulties. Under these circumstances, therefore, I consider it by far the most likely mode of arriving at just conclusions, and of satisfying the minds of the public, and the doubts of individuals who may be in possession of only some detached facts, and even these, perhaps, not stated with perfect correctness,—to submit at once to the profession the entire series of cases, consecutively and uninterruptedly, as they have occurred. I here beg leave to take an opportunity of again expressing, what I have already done elsewhere, that I shall feel on all occasions the greatest pleasure in seconding the views of my respected chief, Sir James M'Grigor, the Director-General of the Army Medical Department, by throwing open the wards of the military hospitals under my control, and submitting the records of the practice followed in them, to my brethren in civil life, accepting for myself and the military practitioners who act along with me, the benefit to be derived from a mutual communication of professional opinions.

It will be necessary for me, before entering upon the history of the cases, to make a few preliminary remarks. It is well known that Small-pox has for some time past existed in this city and its neighbourhood, both under its usual and its modified forms; and your last number has already furnished us with some highly interesting and important details upon the subject. Varicella also has existed at the same time in a genuine and unequivocal form. From the co-existence of these two diseases, and from the great difficulty that is frequently experienced in dis-

tinguishing between them, especially where the previous history, and all the concomitant circumstances of the cases are not taken into consideration, the principal interest of the following narrative is derived.

From the decided part which his Royal Highness the Commander in Chief early took on the subject of vaccination, and from the universality of its adoption by army practitioners, Small-pox has become a disease of very rare occurrence in military life. It has raged around our camps and barracks, and carried off its victims from under our very walls, and even from the houses where our detached troops have been quartered, while it has left them and their families unmolested. In Scotland this exemption has been no less remarkable than in other parts of the empire, and, for the last two years, I do not find one case of Small-pox mentioned in the records of the military hospitals of this city; neither has Varicella occurred within the same period in these hospitals. One man, however, was received into the depot hospital at Queensberry House, from the Castle barracks, labouring under the latter disease, on the 14th of May last. He asserted, on a general examination of the depot some time before, that he had had small-pox. No very decisive mark of them could, however, be traced on him, and his name was noted, in order to his being vaccinated, but before that operation was performed, he was seized with the varicella. After his dismissal from hospital, the vaccination was performed; but the vesicle did not satisfy Dr Bartlett, nor had the man any constitutional affection. From an examination of all the circumstances of this man's case, it is rendered probable that his assertion with regard to his having previously had small pox, was perfectly correct.

In three days after the above individual had been admitted into hospital, an unequivocal case of Small-pox was received. It occurred in a Highland soldier belonging to a recruiting party, who had never had the disease before, and who had obstinately resisted all the persuasions that were employed to procure his submission to vaccination. This man had been for a long time previously confined to the hospital, in consequence of a tedious ulcer on the lower part of the parietes of his abdomen, and had been only dismissed a few days before to his quarters in the Grassmarket, when he was taken in a second time labouring under the small-pox, which it appears were prevalent in the near vicinity of his residence.

In order to give perfect satisfaction as to the nature of the complaints under which both these men laboured, I shall give their cases in the numerical order of their admission. The

case of Varicella, therefore, will stand No. 1 of the succeeding series, and that of Variola No. 2.

On the 17th of May, a child of the hospital serjeant's, who had been vaccinated in Ireland in 1811, and who has two very perfect cicatrices on his arm,* was taken ill with a disease, which I at first conceived to have been modified small-pox, but which, on consultation with Professor Thomson, Surgeon to the forces in charge of the Queensberry hospital, I afterwards considered as varicella. This child I did not see before the 20th of the month; the heads of his case will form No. 3 of the series. His brother, a boy of 11, who had been vaccinated at three months old, and who has a perfect cicatrix, escaped all complaint whatever.

On the 6th of June, a recruit was admitted into the same hospital, from his billet in the Grassmarket, whose case Dr Thomson, for the first two days, conceived to have been varicella, but which he afterwards considered, and reported as affording in its progress, maturation, and decline, a good specimen of the modified small-pox, so well described by Dr Willan, and of which several interesting cases are reported in the 55th Number of this Journal, as having occurred in Edinburgh during the preceding six months. The subject of this case has a cicatrix of variolous inoculation on his arm; from twenty to thirty pits of small-pox are observable on his body; and he says that he passed regularly through that disease from inoculation, before he entered the army. His case is marked No. 4.

These four cases show the entire progress of disease as it was treated at, or originated in, the depot hospital at Queensberry House.

On the 9th of June, a child of my own, who had been vaccinated upwards of ten years before, and who went through the disease most satisfactorily, and now has two perfect cicatrices on his arms, took ill; his case forms No. 5 of this series. His younger brother, who had been vaccinated eight years ago, and now exhibits one perfect cicatrix on his arm, was also ill some days before, but so very slightly, as not at the time to have attracted any particular attention. Both these boys, after coming from school, had occasionally played in the hospital airing ground, and in the reading room and hospital serjeant's rooms, while all the preceding cases were under treatment. Three

* By perfect cicatrix, I understand a permanent circular cicatrix about five lines in diameter, and a little depressed, the surface of which is marked with very minute pits or indentations, denoting the number of cells of which the vesicle had been composed.

older members of my family, two of whom had been vaccinated upwards of 14 years before, and the other had had small pox, escaped all disease whatever, although the last slept in the same room, and for some time in the same bed with the sick boy, and one of his vaccinated sisters had been in constant attendance on him. The case of my son No. 5, I at first considered as an instance of aggravated varicella, and under that impression, I delivered to Dr Bartlett of the 88th regiment, four lancets charged with lymph from his body, for the purpose of ascertaining by experiment, some points in the natural history of that disease, which are still in obscurity, notwithstanding the observations of the late Drs Willan and Heberden. Mr Bryce, however, and Dr Monro, who saw my son after the lymph taken from him had been inserted into the arms of six children who never had had small-pox, cow-pock, nor varicella, and who were selected as the most proper subjects for trying an experiment upon, at once pronounced his case an example of the modified small-pox with which Dr Monro's children had been affected. It may well be imagined what a strong degree of interest was excited by this circumstance. The experiment, highly important in itself, if the disease communicated were purely varicella, became doubly so on the supposition that it should turn out to be small-pox; for we had been taught to believe that the modified small-pox produces the real disease in persons who have never gone through it before, or who have not been previously vaccinated; but that it still retains its modified character in persons who have previously undergone either of these diseases.

The results of these experiments are given with great minuteness in the following cases from No. 6 to No. 11 inclusive, and from them the first appearance of the eruptive diseases in the Castle takes its date.

On the 7th of July, the 24th day after the children were inoculated, an adult soldier who slept in the room with, and often nursed one of these children, (Hughes, No. 8.) was taken into the Castle hospital. His case forms No. 12. of the succeeding series.

On the 12th of July, another adult soldier, who had nursed the child O'Neil (No. 6.) during the progress of its disease, was taken into hospital. His case forms No. 13. of the succeeding series.

On the 17th of July a third adult soldier, who slept in the same room with, and on the upper tier of the same bed with the child M'Dermott (No. 11.) was taken into hospital. His case is marked No. 14. of the succeeding series.*

* Some of the barrack bed-steads are of two tiers, for two men in each tier. The rooms are not crowded; they are well ventilated, and kept critically clean.

These three men exhibit several marks of previous small-pox, particularly the last, on whose arm there is the cicatrix of the inoculation, and they all recollect their having had the disease.

Besides these persons, one adult and three children were also taken ill in the Castle during the early part of the month of July; the adult so slightly, as never to have been received into hospital, nor to have omitted his duty for a single day. He says he had small-pox twenty-four years ago, and bears the mark of inoculation, as well as of several pits of that disease. A very few pustules, of a horny nature, appeared on his face, breast and arms, preceded by a smart degree of fever of short duration, and dried up rapidly in four or five days. This man slept in the same room with two of the inoculated children—Hogg, the very severe case, and Conolly, one of the slighter, (Nos. 7. and 9.) Of the children, one of eighteen months old, who had been vaccinated about 15 months before, and exhibits a perfect cicatrix, had a slight feverish attack, succeeded by a few pustules of the same horny nature as the adult, which soon dried up. This child was on the same floor, but not in the same room with the inoculated children *Hughes* and M'Dermott. (Nos. 8 and 11.) A second child who had not been vaccinated, an infant of three weeks old, who was nursed by the mother of the inoculated child Conolly, (No. 9.) and who slept in the same bed with it, had, at the same time with the adult and the first mentioned child, a disease of the same slight character and short duration as they had. But a third child, of twelve months old, whose parents had neglected to bring it forward for vaccination, had, at the same period, a very severe disease, resembling that of the inoculated child Hogg, (No. 7.) This child slept in the upper tier of the same bed with the inoculated child Conolly, (No. 9.) and its father is the adult mentioned at the commencement of this paragraph, as having had small-pox in his youth, and having been so slightly affected with the eruptive disease. It would be quite superfluous to give the minute details of these last cases.

I had flattered myself that the disease had altogether ceased, as no fresh case was reported from the 17th of July; and I proceeded to inspect the Hospitals at Glasgow where measles had made their appearance, when, on the 4th of August, I received intimation from Dr Bartlett, that a soldier who was then and had been for some time previously in the Castle hospital, and on whom I was about to perform the operation for artificial pupil, had been seized with a febrile attack, which the doctor strongly suspected was the eruptive fever of small-pox. This man had represented himself on his enlisting from

another corps into the 88th in France, as having had small pox, and there were some marks upon his body, which, in conjunction with his assertion, were sufficient to justify the surgeon in considering him as having passed through that disease. He has, however, since confessed, that he never had had the small-pox, and that when a sister of his had the disease, he had been kept separated from her by his parents. This imprudent man was in a ward on the same floor with the adults, Nos. 12, 13, 14, and only separated from them by a narrow passage, and he had even conversed with one of them during the continuance of his disease. The case terminated fatally on the morning of the 13th day of the eruption; it forms No. 15. of the series, which will I trust convey to your readers, a sufficient view of the rise, progress, and, I hope, termination of the eruptive disease among the troops in this city. That this man's disease was genuine small-pox, no one who has seen him expressed the least doubt.

It obviously would be presumptuous to assert with perfect confidence, that all these cases have sprung from one and the same source, although there is the strongest reason to suppose that they did. It is most probable that my son's disease originated in one or other of those at the depot hospital at Queensberry House, and from him we are enabled to say with certainty, that the disease of the six inoculated children proceeded. The presumption is, that from some of these last, the subsequent cases of the adults, Nos. 12, 13, and 14, took their rise, although there is a *physical possibility* that they might have caught their disease elsewhere, from the frequent communication which necessarily takes place with the outside of the Castle walls, where small-pox exists. It is also highly probable that the adult, his child, and the two other children, mentioned as having taken an eruptive disease, but whose cases are not given at length, derived their disease from the inoculated children also. Finally, that the last man caught his complaint from the adults in the hospital with him, is as nearly certain as any circumstance of a similar kind in the history of the progress of contagion, can be.

I have already stated, that the inoculation was instituted under the impression that the disease to be communicated was Varicella. When, however, I saw the first adult, No 12, take a disease which spared neither the vaccinated nor the variolated, and which I myself and many eminent gentlemen of this city conceived to be a form of small pox, I at once put a stop to all further experiments among the troops, and took immediate measures to have all the children in the barracks vaccinated, who had not already gone through that most important process. This was not only consonant to my own opinions on the subject, but

it was what I should have done, even if any doubts had existed much less strong than those which I entertained; or indeed as I should have done in any case, where the eventual loss of life might have followed the gratification of curiosity.

I tried, however, upon myself, what I did not choose to do upon the soldiers whose health is committed to my care. From the child O'Neil (No. 6.) I inoculated myself. I had had small-pox, but never varicella. No result followed. Dr Bartlett, who had also had small-pox, but not varicella to his knowledge, tried the same experiment with a similar result; and I understand it was also tried by Dr Farquharson of this city, with similar consequences, and under the same circumstances. These, to be sure, are negative trials.

Dr Bartlett, in order to throw some further *positive* light on the natural history of varicella, inoculated seven children who had neither had cow-pock, small-pox, nor chicken-pox, with lymph taken from a child of Mr Wishart, surgeon of this city, who laboured under genuine unequivocal varicella. No disease was produced in any of the children thus inoculated.

Another trial of inoculation was made by Mr Bartlett, jun. upon himself, with the matter of the disease under which the adults laboured, taken from the case Delany, No. 13. Mr Bartlett had had small-pox, but not varicella to his knowledge. No result followed.

But although I stopped all positive trials among the troops, I have not crushed all future experiments; for I have in my possession several charges of matter, taken with every possible precaution from the body of Redmond, No. 12, with which, if it may be deemed desirable, I shall myself perform, or deliver to any other properly qualified person to institute, experiments, in some situation where less danger is to be apprehended than in a crowded barrack.

Another experiment still remains to be performed, viz. the testing the six inoculated children with unequivocal variolous matter, when they can be placed under such circumstances that, if they do take that disease, its propagation may be prevented, as far as human means can prevent it.

I have not commenced this paper by announcing the cases it contains as cases either of Varicella or Variola, whether in their genuine or their modified forms, because the history of the contagion is wrapped in great obscurity, and most serious differences of opinion have arisen about its nature; and where any dissent, however trifling, occurs among gentlemen of such high rank in their profession as those who have seen the cases, I could not pretend to obtrude my private opinions, or my reasons for adopting them, cogent as they may have appear-

ed to myself. I should not, indeed, even have mentioned my sentiments with regard to the case of my own son, were it not to shew under what impression I instituted the first inoculation; and I should have been equally silent with regard to the opinion I have adopted of the nature of Redmond's case, were it not to offer a reason, which to myself is perfectly satisfactory, and which, I trust, will be equally so to others, for putting a stop to all further experimental inquiries for the present.

But while I withhold my positive opinion, and give place to the many eminent men who entertain contradictory sentiments upon these cases, in the justice and candour of my statements, and in the desire of fair and impartial investigation, I shall yield to none. I am the faithful narrator of truth, without having a theory or a prejudication to substantiate, by concealing or embellishing it. Where any thing has been stated from my own knowledge, or where any addition has been made by me to the reports of the surgeons of the hospitals, I have drawn up the statement, and verified its accuracy, by reading and re-reading it at the patient's bedside, and in presence of, and in conjunction with, several professional gentlemen; among them, yourself and Dr Monro, Dr Thomson, Mr Bryce, Dr Fergusson, Inspector of Hospitals, and Dr Hugh Ferguson, assistant Secretary to the Dublin Cow-pock Institution. And in all the other instances, I have read and compared the daily reports of Messrs Johnston and Bartlett, the medical officers of the 88th regiment, and can claim for them the same degree of confidence that I demand for myself. The latter gentleman who, in addition to his duties in the Castle, has also acted as a temporary assistant at the Queensberry Hospital, has been equally attentive to the cases Nos. 1, 2, 4, which were treated there, and which he has reported under the immediate eye of Professor Thomson, and to No. 15, which was, at its commencement, particularly under his charge. To him also I exclusively owe the whole of the cases of the inoculated children, which were daily and almost hourly visited by myself and a number of other medical gentlemen, both civil and military. The accuracy of Dr Bartlett's descriptions sufficiently speak for themselves, and to a great degree supply the deficiency of engravings, the enormous expence of which in this country, particularly as they refer to cutaneous diseases, amounts almost to a prohibition of their publication. Some drawings are, however, extant; views of the inoculated pustule on the arms of the children at the 9th day, were taken for me, and executed with his usual spirit and accuracy, by my friend Staff-Surgeon Schetky. These original drawings are lodged among the records of the army medical department in London,

which, under the liberal and scientific administration of Sir James M'Grigor, hold out the promise of immense future benefit to medical and surgical science. Several other drawings have also been executed under the direction of Dr Mouro.

I shall now endeavour, without the aid of the pencil, to put your readers in possession of this very interesting series of cases, of which I may say with truth,

"Ornari res ipsa vetat, contenta doceri."

CASE I.—WILLIAM WRIGHT, 26th regiment, aged 21. May 14th. Two days since, symptoms of fever shewed themselves, and this morning there is an eruption on the face and breast. At present the skin is hot and dry; his pulse 100, and pretty full; tongue white, thirst, and anorexia; bowels costive. The eruption consists of distinct papulæ, with inflamed bases, and is principally confined to the forehead, sternum, and back.

Sumat protinus submuriat. hydrarg. gr. vi. et post horam sodæ sulphatis ℥j. Diet, spoon.

15th.—Febrile symptoms are more moderate; the papulæ have become vesicles, and possess all the characters of varicella.

Repet. medicamenta, et hab. pro potu commune solut. potassæ supertart.

16th.—Skin more natural; pulse 90; thirst less; slept well, and feels much better; one or two of the vesicles are ruptured.

Contin. solut. potassæ supertart.

17th.—Pulse and skin natural; appetite returned, and he feels in every respect well; with the exception of one or two, the vesicles have all ruptured, and formed crusts.

Omitt. medicamenta. Half diet.

18th.—In every respect free from complaint. Discharged.

CASE II.—JOHN MACLEOD, 78th regiment, aged 25. May 17th. Four days ago symptoms of fever manifested themselves, and yesterday morning an eruption of papulæ over the face and back, extending in some degree to the extremities. The papulæ are confluent on the face, collected into clusters on the extremities, and distinct on the trunk; they are large, but little acuminated, and of a pearly hue; the heat of skin is not much above natural. Pulse 84; little thirst; no nausea or pain on pressing the epigastrium. Bowels were opened freely yesterday by a dose of neutral salts.

Teneat. in cubiculo quam frigid. cum tegumentis lecti perpaucis.

Admitt. liberrime aer frigidus.

Abluat. corpus aqua egelidâ.

Hauçat pro potu commune solut. potassæ supertart. Diet, spoon.

18th.—Febrile symptoms very moderate; vesicles beginning to form on the apices of the papulæ.

Repet. sodæ sulph. ℥j. Contin. potus.

19th.—Slept tolerably; has little febrile symptoms, though the eruption is very confluent; the eyes are considerably inflamed.

Contin. potus.

20th.—Some increase of the febrile symptoms this morning. Pulse 90, and full; thirst; eruption passing into the pustular state.

Sumat calomelanos gr. vi. Contin. potus.

21st.—Did not sleep during the night from the itching and pain of the pustules. The eruption is now completely pustular, and on the chin has formed crusts; the conjunctiva of both eyes is inflamed from pustules on the tarsi. Pulse 98, strong and full; thirst; bowels costive. Sumat olei ricini. ℥j.

App. collyrium solut. plumbi acetatis.

22d.—Slept very indifferently. Pulse is 100, strong and full. He is thirsty; his tongue is furred; and he feels great smarting pain from the eruption.

Contin. potus acidul. et collyrium.

23d.—Passed an uneasy night, and complains much to day of smarting pain from the pustules; his pulse is 120, strong and full; thirst is considerable; tongue white; the crusts are formed over the chin and forehead; on the extremities the pustules are still entire, large, white, and prominent.

Repet. calomel gr. vj. Contin. collyrium.

24th.—Passed a restless night, but feels better this morning. Pulse down to 90, and soft; tongue moist; less thirst. Desquamation has begun in the face, and incrustation is going on over the body.

Sum. nocte haust. anodyn.

25th.—Passed a better night, and feels better this morning. Pulse 100, but soft; little thirst; incrustation is going on. Eyes free from inflammation.

Repet. calomel gr. vi. Cont. collyrium. Repet. nocte haust. anodyn.

26th.—Passed a good night, and feels better to-day; his pulse is 90, and soft; tongue moist; appetite begins to return; incrustations almost finished, and in many places the crusts have separated.

Repet. haust. anodyn. Descendat in baln. tepid. vespere.

27th.—Passed a good night, and continues to improve; had two loose stools yesterday, but to day his bowels are quite natural.

Repet. balneum et haust. ut heri.

29th.—Most of the crusts have come off; he sleeps well; his bowels are regular, and appetite improves.

Repet. haust. et balneum.

31st.—May be pronounced convalescent.

Repet. haust. h. s.

June 3d.—Convalescence going on slowly.

Pilul. opii, h. s.

5th.—Within the last day or two, eight or ten phlegmonous abscesses have appeared on different parts of the body; in other respects the convalescence goes on well.

App. cataplasmata.

7th.—Convalescence going on well; the abscesses have ulcerated and discharged their contents.

9th.—A few fresh abscesses have appeared; in other respects he is going on well.

11th.—Convalescence going on slowly.

13th.—Only one abscess remains, which has not discharged its contents. Convalescence going on well.

15th.—Convalescence going on slowly; appetite better.

17th.—Abscess opened; convalescence very gradual, but without any bad symptom.

19th.—Convalescence proceeds more rapidly.

From this period no farther reports have been made. His diet was gradually increased during his convalescence; and during his febrile state he was plentifully supplied with diluents, and occasionally with sowens or oranges, &c. He is now (August 10th) perfectly recovered, but considerably marked with the small-pox, and the stains of the pustules which have not pitted, are still very evident.

Case III.—Before giving this case, I must premise, that, as the child was not an hospital patient, no regular or daily notes were taken of his disease, but to the fidelity of the general outline I pledge myself, as both Dr Thomson and I made the most minute inquiries from the parents, who are both intelligent persons, and verified them by our own observations.

Thomas Williamson, aged 7, had been vaccinated by the surgeon of the 72d regiment, in Ireland, in the year 1811. On the 17th of May, a day which the mother perfectly recollects, as having been Sabbath, this boy first appeared ill. On the 20th, in the afternoon, I first saw him with a pustular eruption on his face, consisting of about thirty very perfect but small pustules, and about the same number of more imperfect vesicles on his body and legs, the greater part of which, the mother told me, had come out during the preceding night and that morning. He had very smart fever, with pain at the epigastrium on pressure, but no vomiting, and his eyes were considerably suffused.

I certainly took the case, from the appearance of the *pustules*, and from small-pox being in the house, for an instance of modified small-pox, and mentioned it to Dr Thomson that evening. He saw the child with me on the 21st, and by referring to the date of the arrival of Wright (Case No. 1.) in hospital, and from the appearance of the *vesicles* on the child's legs, as well as from the eruption having been increased by *fresh crops coming out in succession*, according to the mother's report, he was of opinion, that, however strong the resemblance might be to modified small-pox at the first glance, yet from a consideration of all the circumstances of the case, it should be considered as one of varicella. I did not see this child again, being employed on other duties, but by the 24th, the ensuing Sabbath, all the pustules and vesicles were dried up, and the child went to play as

usual. The treatment consisted of an occasional purgative, acid diluents, and cool air.

His brother, the only other child in the house, who had been vaccinated eleven years ago, when three months old, escaped all disease whatever.

Case IV.—James Sterling, 74th regiment, aged 19. June 7th. Was brought to hospital last night, when he complained of febrile symptoms which had appeared five or six days before. As nausea was a very prominent symptom, on his admission he was ordered an emetic, by the operation of which much bilious matter was evacuated. To-day he complains much of headach, and a sense of being bruised in his limbs; his skin is hot and dry, the pulse 110, and rather small; he has much thirst; his tongue is much loaded, and his bowels are costive.

Sumat calomelanos gr. vj. et post horam sodæ sulphatis ℥j.

Habeat solut. potassæ supertart. pro potu commun.

8th.—Medicine operated well; he feels lighter, but still complains much of his head and limbs; the face is much flushed; eyes somewhat suffused; skin very hot and dry; pulse 106; much thirst.

Affusio frigid. Sumat calomel. gr. viij. et cont. solut. potassæ supertart.

8. P. M.—Felt much relieved of the headach and heat of skin after the cold affusion; the pulse also came down to 90, and at present is not higher; the skin is also cool, and thirst less.

Sumat pulv. antimon. gr. vi. Pediluvium.

9th.—He passed a tolerable night, but did not perspire, nor was he hot. Headach quite gone; pulse 72; thirst much less; tongue not so much loaded; bowels freely opened; he has an eruption of papulæ on the face, trunk, and extremities, which, did he not bear marks of variola, might be taken for that disease. It is probably varicella.

Contin. potus supertart. potassæ.

10th.—Papulæ more numerous and prominent; febrile symptoms fully as moderate as yesterday.

Sumat calomel. gr. vi. Contin. potus.

11th.—Passed rather a restless night, and feels some return of his headach to-day. Pulse 80, and soft; tongue still loaded, but not parched; little thirst or heat; bowels were not opened yesterday. The eruption is more numerous, collected in several parts of the body into confluent circular patches; on the apices of each of the papulæ, pearl-coloured vesicles have formed, which are in some instances depressed in their centre, in others acuminated; bases but slightly inflamed.

Sumat sodæ sulphatis, ℥j. Cont. potus acidulat.

12th.—The eruption is more numerous; but not altered in character; the fauces are inflamed, and studded with vesicles of the same

kind as those on the skin. He passed a bad night; bowels not yet opened; pulse calm; heat moderate.

Sumat calomel. gr. viij., et post horam magnesiæ sulphat. ℥i.
Utet. gargarism. astring.

13th.—Passed rather a better night, but complains of a good deal of smarting from the skin; face is rather more flushed, and eyelids tumid; bowels have been freely opened; the eruption is more prominent, and the contained fluid has acquired a yellowish colour; the bases also are more inflamed.

Contin. potus acidulat. et si calor supra modum surgat, ablutio frigid. adhibend.

14th.—He felt considerable relief from being sponged over, which was twice done. He passed rather an uneasy night, but the pulse is calmer than yesterday; the skin cooler, thirst less, and he has some return of appetite. Some of the pustules on the face have begun to form crusts; on the extremities they are still entire and turgid.

Habeat mistur. salin. effervescen. ter quaterve in die.

15th.—Passed rather a sleepless night, but he says he is much better to-day; the skin is cool; pulse calm, and moist; appetite has returned; his face is not so red, nor so much swelled, most of the pustules on it have formed crusts. On the body and extremities the pustules are very large, globular, and quite turgid; none of them have yet formed crusts.

Contin. gargarisma, et si alvus non ante noctem descendat, habeat calomelanos gr. vi.

9, P. M.—As he complains much of smarting pain from the pustules, and has had restless nights, an anodyne may be administered; bowels opened.

Sumat tinct. opii gtt. l.

16th.—Slept well, and says he feels much easier to-day. Pulse is 100, probably in consequence of the anodyne, but he has no headach or thirst. The eruption has made little progress since yesterday.

Contin. potus. Omitt. gargarisma. Rept. haust. anodyn. h. s.

17th.—Passed a good night, and makes no complaint, unless from the smarting of the skin; his tongue is a little white, but moist; he has a good appetite, and his bowels are open; pulse 90 and full. Most of the pustules on the face have assumed an opaque amber colour, and quite a horny feel; on the other parts of the body they are still of a pustular appearance, but very large, and here and there coalescing.

Contin. potus. Repet. haust. anodyn. vespere.

18th.—Passed a good night, and makes no complaint. Many of the pustules on the limbs have discharged their contents without forming crusts; in others the matter seems to undergo a gradual inspissation and change of colour, so as to become like those on the face, horny scabs.

No medicine. Vespere repet. haust. anodyn. et descendat in baln. calid.

19th.—Most of the horny scabs came off in the bath last night, leaving fleshy looking tubercles on the skin; the other pustules have discharged their contents, leaving the thin cuticle as a loose bag behind them.

Adeat baln. calid. Omitt. anodyn.

20th.—Bowels are costive, and he passed rather a sleepless night, but in other respects he has no complaint. No alteration since yesterday in the appearance of the eruption.

Sumat olei ricini ℥j. Repet. anodyn. h. s.

From this period this man gradually recovered, and he now, August 10th, exhibits numerous pits of the recent disease, which are very easily distinguishable from those left by his original variolous attack.

Case V.—Had I entertained the most remote idea of the interest which the following case would have excited, it should have been kept with the most scrupulous minuteness. But neither Dr Thomson, who is in the constant habit of seeing my family, nor myself, considered it as any thing else than a severe case of chicken-pox, and some other medical gentlemen who saw the boy, were of the same opinion. I can undertake, however, to assert with perfect confidence, that the general outline, and the more minute particulars as far as they go, are perfectly correct; for although the facts were not noted day by day at the bedside, they have been taken while the impressions were yet recent in the recollection of a fond mother, accustomed to the diseases of children, assisted by the memoranda made by myself, and compared with the observations of others. The original account was, at Dr Monro's request, transmitted to him, on the 18th of June, only nine days after the first attack of the disease, and I shall transcribe the very words in which it was conveyed to him.

My Dear Sir,—I am sorry that I was from home, on public duty, on Sunday last, when you and Mr Bryce called at my house. I only returned from Northumberland last night, and I lose no time in giving you the particulars of my son's case.

On Tuesday the 9th instant, he returned from school about four o'clock in the afternoon, complaining of an intense headach and pain in his right side. His pulse was nearly 100, hard and bounding; his skin hot, dry, and rough to the touch, and somewhat inclined to redness; his eyes suffused, and his cheeks very much flushed; his tongue was moist, and rather redder than usual, particularly in the centre; the pain of his right side was considerably increased by pressure, but I was not sensible of any enlargement of the liver, and at first attributed his complaint to a blow on that part by some of his school-fellows of his own age, (about eleven,) particularly as there were marks of tears on his cheeks. I found on examination, how-

ever, that this was not the case, but that he had been seized at the grammar school in the morning, with intense headach, and had been so unwell at the writing class as to be unable to continue his business. On further examination, I found, that, in the morning before he went to school, although the weather was unusually warm, he had complained of cold and sleepiness, and did not eat his breakfast. This was in some degree attributed to his having walked out the evening before to Duddingston, to visit the family of a friend, and not having returned before dark.

When I saw him at four o'clock in the state above described, I did not particularly recollect that his younger brother, a boy of about eight years old, had had a very slight eruptive complaint, preceded by a degree of fever scarcely perceptible. The eruption consisted of a few detached papulæ, one only of which became vesicular; it was considered as varicella, a complaint under which the child of the nurse in the hospital close to my house, had laboured a few days before, which it was supposed he had caught from a soldier who had been in the hospital under that complaint some time previous, and with which another soldier then in the hospital was supposed to be affected. The disease of this last person has, however, since been ascertained to be small-pox, occurring a second time, as there is every reason to suppose, both from the report of the man, and from the marks of that disease, which are very apparent on his face, breast and back.

My son, immediately on his arrival from school on Tuesday, was bathed in tepid water and put to bed, and I administered to him a bolus containing four grains of calomel, which before night produced several copious stools, consisting of highly offensive bilious matter. He passed, however, a most distressing night, being watchful and delirious. On Wednesday his skin still continuing extremely hot, he was occasionally sponged with vinegar and cold water. He was plentifully supplied with lemonade and orange juice, and in the evening his calomel bolus was repeated. That night he never slept, and was highly delirious, insomuch that I was about to put leeches to his temples, when, on Thursday morning, I perceived a papular eruption beginning to appear upon his feet and around his ankle-joints; it then began to appear about his wrists and fingers, and in circular clusters on the inside of his thighs, (the clusters about the size of a half-crown piece,) and then spread to his face, and soon almost covered it, particularly affecting his eyelids. As the eruption spread, his skin, which had continued excessively hot, grew cooler and more soft, and the pain of his head, which had been most urgent, began to abate; its heat, which had been intense, moderated, and he became perfectly collected. Before Thursday evening some of the papulæ became distinctly vesicular, the vesicles being full, hemispherical, without any depression, and containing a watery fluid. They were pretty thickly spread over his face, hands, legs, and thighs, and there were a few on his body, but none upon his breast. His principal complaint, on Thursday night, was intense itching, and he was

very restless and somewhat delirious that night; from this day to the present date he was seen by Dr Thomson. On Friday morning I found his skin much cooler; his tongue clean, but still rather more red than natural, and the vesicles prominent and full of watery fluid; the intervals occupied with the red papular eruption. His bowels being costive, he had ʒij. of Epsom salts, which purged him freely. On Saturday all the appearances were the same, and on this day I took six charges of limpid fluid from the pustules, for the purposes of experiment. On Sunday there was little change, except that the fluid in the pustules became thick and yellow. This day he was seen by Dr Duncan junior. Towards evening the pustules began to dry up in many places, and the papular eruption to scale off, giving an appearance to the skin as if it had been sprinkled with reddish half dried jelly. On Monday he was seen by yourself and Mr Bryce. On my return home last night, (the seventeenth) or the ninth night of his illness, I found him better in every respect,—no fever, and nothing but the marks of the eruption remaining. I should have mentioned that a ptyalism came on on Thursday, and that a pustule formed on the inner part of the globe of his right eye, and a few very small ones on the margin of the lids; all these have now disappeared.

This boy was vaccinated by myself when three months old, and I had every reason to be satisfied with the genuineness of the matter. He has often since been exposed to variolous contagion in Spain, France, and Portugal, and particularly last year at Portsmouth. The nature of his disease and its name I shall not presume to offer any opinion upon. The treatment consisted of the two calomel purges and the solution of Epsom salts above mentioned; of cooling acidulous drinks; and of frequent sponging with vinegar and cold water, the tepid bath having been premised on the first attack; his room was kept as cool as possible, and his bedding consisted of a single sheet and light coverlet.

I shall be most happy to give you any further information upon the subject, either as it may refer to my son, or to the results of the experiments with the lymph taken from him. Believe me, my dear Sir, very truly yours,

J. Hennen,
Deputy Inspector of Hospitals.

Queensberry House,
June 18, 1818.

Within two hours after the lymph was taken from my son, it was inserted into the arms of the six children who form the subjects of the following cases, from six to eleven inclusive. They were all in perfect health, and never had either cow-pox or small-pox.

Case VI.—Rosana O'Neil, aged 9 months, 13th June, was inoculated in two places on the arm.

June 17th, (5th day of the inoculation.)—A small papula had appeared on each of the punctures; it was of a hemispherical shape, rather acuminated, and had an inflamed base.

June 18th, (6th day of inoculation.)—The papulae were increased in size; their bases were more inflamed, and minute pearly-coloured vesicles had appeared on their apices.

June 19th, (7th day of inoculation.)—The vesicles were larger; their centres were depressed, and of a brownish hue, while the margins were of a pearly colour, turgid, and overlapping the bases, which should now be more properly named areolae; they were, in short, very similar to vaccine vesicles, but instead of being exactly circular, they had angular projections from their circumference.

June 20th, (8th day of inoculation.)—The vesicles have increased in circumference, but not in elevation, being, on the contrary, flatter than yesterday; they retain their pearly colour, and the areolae are but little increased.

The child is somewhat fretful, but quite free from fever.

June 21st, (9th day of inoculation.)—The vesicles retain the appearance and size they had yesterday. The areolae are narrower, and of a duller red colour. On puncturing one of the vesicles, clear lymph exuded, but in small quantity, until different punctures were made, when fresh lymph issued, denoting the cellular structure *of the vesicle*. The child is still fretful, but cool.

June 22d, (10th day of inoculation.)—The vesicles are increased in size, but unaltered in shape and colour; the areolae are wider, and of a more florid red. The child was more fretful throughout yesterday, had some vomiting towards evening, and was hot and uneasy during the night; to-day she is cooler, but still somewhat feverish. In the course of yesterday, two or three minute points appeared in the areolae, and on the child's getting up this morning, several others were observed on the body. This eruption consists of minute vesicles, which are of a pearly colour, have depressed centres, and are raised on slightly elevated inflamed bases; the vesicles are in number three on the face, two on the chest, and two on each thigh.

June 23d, (11th day of inoculation, 2d of eruption.)—The original vesicles on the arm are not altered in appearance, but their areolae are increased in width.

She had occasional vomiting through the course of yesterday, and was hot and fretful. More vesicles, possessing the same characters as those mentioned yesterday, have appeared on the face, trunk of the body, and in the areolae; they are in number upwards of forty.

June 24th, (12th day of inoculation, 3d of eruption.)—The original vesicles on the arm have lost their pearly colour, and become of a more chalky white, but are not in any other respect altered. The child was hot, and fretful towards the evening, and is rather more so this morning than yesterday at the same hour. More vesicles of the same character have appeared on different parts of the body, particularly on the face, where they are now confluent.

June 25th, (13th day of inoculation, 4th of eruption.)—The original vesicles on the arm are flatter, are more of a greyish hue, and have coalesced with several of the small vesicles which are in the areolae. The child is quite cool, and takes its food pleasantly. More of the eruption has appeared. The vesicles which first came out are larger, but retain the pearly colour and depressed centres, which the more recent ones possess.

June 26th, (14th day of inoculation, 5th of eruption.)—The brownish depressed centres of the original vesicles on the arm are gradually extending themselves towards the circumference of the vesicles, and the areolae are becoming of a less vivid red. The skin is rather hotter than natural, but the child is not fretful. Several new vesicles have appeared on the extremities, which are of a pearly colour, while those that first appeared have acquired a yellowish hue, and throw out a thick purulent-looking fluid when punctured.

June 27th, (15th day of inoculation, 6th of eruption.)—The brown coloured centres of the vesicles on the arm have now almost extended themselves to the circumference of the vesicles, and are quite horny and semi-transparent; the areolae are narrower, and of a brownish-yellow colour. The child is somewhat hotter, and more fretful than she was yesterday, and several new vesicles have appeared since last night.

On the face, part of the eruption, which was pustular yesterday, has now dried into semi-transparent amber-coloured crusts, which seem to be raised on indurated bases, and are of the size and shape of the pustules themselves. In this progress of drying, there does not appear to be any rupture of the pustules, but a gradual inspissation and change of colour of their contents. On the trunk, a considerable share of the eruption, partly in a pustular, and partly in a vesicular state, has followed the course of that on the face; but many on the trunk, and more particularly on the extremities, have not yet begun to dry up.

June 28th, (16th day of inoculation, 7th of eruption.)—The crusts on the arm are exactly like those of the vaccine disease, and the areolae are almost gone.

The child is in perfect health and in good spirits. No fresh vesicles have appeared, and, with the exception of a few pustules on the hands and feet, the eruption, partly in a vesicular, partly in a pustular state, has followed the same course of disappearance as was mentioned yesterday.

June 29th, (17th day of inoculation, 8th of eruption.)—The whole of the eruption has now dried up.

June 30th, (18th day of inoculation, 9th of eruption.)—A few crusts have come off the face, leaving behind them fleshy tubercles.

July 8th.—Most of the crusts have come off, leaving generally tubercles, which are soon absorbed, but in one or two places pits.

There were in the room with this child, the father, mother, and sister; the two former had had variola, the latter had been vaccinated. None

of them took any disease. One adult who often nursed the child, took ill, (Case No. 13, Delany.) He had had variola.

Case VII.—Thomas Hogg, aged five months, June 13th, was inoculated in two places on the arm.

June 17th, (5th day of inoculation.)—A small papula had appeared on each of the punctures. The papulae were hemispherical in shape, and raised on inflamed bases.

June 18th, (6th day of inoculation.)—The papulae were increased in size, and minute pearly-coloured vesicles had appeared on their apices; the centres of the vesicles were depressed, and of a brown colour.

June 19th, (7th day of inoculation.)—The vesicles were broader, but flatter, they contained more evidently a fluid, and retained their pearly colour; the centres were still depressed, and their bases were thicker and harder. Areolae like those of the vaccine vesicle on the tenth day had appeared around each.

June 20th, (8th day of inoculation.)—The vesicles were not altered in appearance, but the areolae were wider, and of a more florid red. The child was hot and fretful.

June 21st, (9th day of inoculation.)—The vesicles were increased in size, and were more depressed in their centres; they retained their pearly colour, and, on being punctured, threw out a clear lymph, which (like that of the vaccine vesicle) was contained in separate cells. The child has remained hot and fretful. No eruption has come out over the body, but the areolae (now very large) are studded with minute pearly-coloured vesicles with depressed centres.

June 22d, (10th day of inoculation, 2d of eruption.)—The original vesicles are not altered since yesterday, but the areolae are larger more irregularly circumscribed, and of a rosy red. The child continued to be hot and feverish throughout yesterday. In the evening the febrile symptoms were considerable, and vomiting came on. After this exertion, three or four red points appeared on the breast, which, in the course of the night, have been followed by five or six on the extremities, a like number on the neck, and many in the areolae. This eruption consists of pearly-coloured vesicles, with depressed centres, which are raised on inflamed bases. *

June 23d, (11th day of inoculation, 3d of eruption.)—The original vesicles are larger, but flatter; they still retain their pearly-colour, and have coalesced with several of the minute vesicles which are in the areolae The skin was burning hot during the night, and there was occasional vomiting; to day these symptoms have almost gone off, but he moans and cries a good deal. More of the eruption has appeared on the body; the vesicles that had come out yesterday are larger, but not otherwise altered in character.

June 24th, (12th day of inoculation, 4th of eruption.)—The original vesicles have quite lost the turgescence around their circumfer-

* In this and all the other cases, wherever the skin was inflamed, from whatever cause, there the eruption first appeared.

ence, and have, in coalescing with the smaller vesicles of the areolæ, formed a pearly crust, which has a stellated appearance.

The child is cooler and less fretful. Much more of the eruption has appeared, particularly on the face, where the vesicles are now confluent. The vesicles which first appeared are large, hemispherical, and semi-transparent, while the more recent ones are depressed in their centres, smaller, and of a pearly hue. The bases of all of them are a little indurated, red, and almost regularly circumscribed.

June 25th, (13th day of inoculation, 5th of eruption.)—The vesicles on the arm are now more completely dried into crusts, which are of a chalky white. The child is quite cool and in good spirits. More of the eruption has appeared, particularly on the extremities. The vesicles which first appeared are larger, and more of a straw colour; the others are in different states of progression.

June 26th, (14th day of inoculation, 6th of eruption.)—The crust on the arm becomes thicker, and there exudes a little purulent matter from under it. The child is free from fever. Some few more vesicles have appeared. The greatest part of the eruption on the face and trunk is now evidently pustular; that on the extremities is yet chiefly vesicular. The pustules have a brown mark in the site of the depressed centres. The whole face, more particularly the eyelids, are much swollen, and there is a degree of ptyalism.

June 27th, (15th day of inoculation, 7th of eruption.)—The crusts on the arm have acquired a brownish tinge; the brown specks in the centres of the pustules are increasing towards the circumference, but do not form complete crusts as yet on the body generally: in the areolæ, however, that process is completed, the vesicles in them having perfectly dried into semi-transparent, polished, amber-coloured, hemispherical crusts.

June 28th, (16th day of inoculation, 8th of eruption.)—The crusts of the original vesicles are now completely of a horny consistence, and brown colour; the areolæ have disappeared; the child is perfectly cool and in good spirits; no fresh eruption has appeared. The greatest part of the pustules on the face and trunk have dried into brown, semi-transparent horny crusts, and the whole of the eruption which remains is now pustular, nowhere vesicular. The swelling of the face is less. Ptyalism still profuse.

June 29th, (17th day of inoculation, 9th of eruption.)—The child is cool and in good spirits; the swelling of the face and ptyalism are almost gone, and, with the exception of a few pustules on the extremities, the eruption has dried up into the polished crusts already described.

June 30th, (18th day of inoculation, 10th of eruption.)—The remaining pustules have all dried up.

July 3d.—Many of the crusts have come off, leaving small brownish fleshy tubercles behind them.

July 8th.—One of the crusts has separated from the inoculated part, leaving a considerable depression.

July 13th.—All the crusts have separated: the tubercles seem gradually to be absorbed; but brownish coloured maculae, in some places slightly depressed, mark where the eruption has been.

There were in the room with this child and Conolly, No. 9, the two fathers and mothers, two other men, their wives and three children. All the adults had had variola; one of them took a very mild disease, the other escaped. One of the children (a sister of Hogg's) was vaccinated; she escaped all disease. The other two children had never had variola, or the vaccine disease; both were affected, one very severely, the other, an infant of three weeks old, mildly.

Case VIII.—James Hughes, aged one year and ten months, June 13th, was inoculated in two places on the arm.

June 17th, (5th day of inoculation.)—A small acuminated papula, with an inflamed base, had appeared at the upper puncture; the mark of the lower one had disappeared.

June 18th, (6th day of inoculation.)—The papula is larger than yesterday, but is small when compared with those on the arms of the other children, who were inoculated at the same time; it is also more conical, and wants that pearly vesicle on its top, which they now possess.

June 19th, (7th day of inoculation.)—The papula is still more pointed, and its base is much more inflamed than those of the other children. A very minute vesicle can now be seen on its apex.

June 20th, (8th day of inoculation.)—The vesicle is larger, its centre is depressed, and it has a pearly colour; the base is thicker and harder than in the cases of the other children, and it is surrounded by an irregular areola nearly half an inch broad.

June 21st, (9th day of inoculation.)—The depressed centre of the vesicle is raised; the vesicle itself should now be more properly called a pustule, its colour being a bright yellow; the areola is larger, and of a deeper red.

June 22d, (10th day of inoculation.)—The pustule has been rubbed, and a purulent-looking matter has been discharged from it; the areola is of a still more deep or livid red.

The child has been very hot and fretful during the night, and continues so to-day.

A few vesicles can be seen on the face, and one or two on the arms; they are raised on inflamed bases.

June 23d, (11th day of inoculation, 2d of eruption.)—A brownish irregular scab has formed on the arm; the areola is contracted in size, and of a paler red colour.

The child was not so restless during last night, as he was the night before; he is quite cool and free from fever this morning.

The vesicles which were visible yesterday are no longer so, but their bases can be seen, and their hardness and elevation felt by drawing the finger over them.

June 24th, (12th day of inoculation, 3d of eruption.)—There is no lteration in the appearance of the inoculated part, unless that the areola is rather of a brighter red.

The child has been hot and fretful during the night.

The vesicles are again visible on the face, occupying their original seat on the inflamed bases mentioned yesterday. Some fresh ones have appeared on the back and breast and two or three in the areola; they are of a pearly colour, have elevated red bases, and depressed centres.

June 25th, (13th day of inoculation, 4th of eruption.)—The crust on the arm has been almost rubbed off, and a little purulent-looking atter is discharged from under it; the areola remains as yesterday.

The child is still a little feverish. The vesicles generally are larger, but still of a pearly colour; their centres are yet depressed.

June 26th, (14th day of inoculation, 5th of eruption.)—The appearance of the arm is not altered. The child is still peevish, and has some degree of fever. Fresh vesicles appear daily, more particularly about the scrotum, and upper part of the right thigh, where there is some redness of the skin, the remains of an herpetic eruption. The vesicles which first appeared on the face, are now of the size of small peas, almost globular, and of an opaque yellowish colour. On the other parts of the body, they retain their pearly hue and depressed centres.

June 27th, (15th day of inoculation, 6th of eruption.)—No alteration in the appearance of the inoculated part. There is still a little fever. Fresh vesicles have appeared on different parts of the body, more particularly on the scrotum and extremities. The eruption on the face and in the areola is now to be called pustular; on the other parts of the body it is still vesicular.

June 28th, (16th day of inoculation, 7th of eruption.)—The arm is still unaltered. The febrile symptoms are milder, but not altogether gone.

More of the eruption has appeared on the trunk of the body. It is now chiefly pustular, even the last which has appeared.

June 29th, (17th day of inoculation, 8th of eruption.)—The areola has almost faded. The fever is almost gone. The pustules in the areola have dried into brown, semi-transparent, polished conical crusts; and on the face, the process of drying is commencing, as detailed in the cases of O'Neil and Hogg.

June 30th, (18th day of inoculation, 9th of eruption.)—The child is free from fever. The greater part of the eruption has dried into polished brown crusts, without any rupture or exudation; some few pustules, however, are but yet commencing that process, and a still smaller number have as yet shewed no symptoms of it. Of those that have dried, the greatest part were pustules, but some few were vesicular.

July 1st, (19th day of inoculation, 10th of eruption.)—The whole of the eruption may now be said to be in a state of crusts.

July 5th.—Some few of the crusts have come off, leaving small tubercles behind them, of a brownish, somewhat purple colour.

July 8th.—There is a depression in the inoculated part, but not in any other part of the body

July 13th.—Purplish blains mark where the eruption has been, but no where are pits visible.

There were in the room with Hughes, the father, mother, and five men, all of whom had had variola. One of them only, (Redmond Case 12,) became affected.

Case IX.—Patrick Conolly, aged three months. This child was in the same room with Hogg, No. 7. 13th June.—Was inoculated in two places on the arm.

June 17th, (5th day of inoculation.)—At the upper puncture a papula has arisen, which has an inflamed base; while at the under puncture there are two papulæ of the same description, joined by their bases to each other.

June 18th, (6th day of inoculation.)—A pearly-coloured film has appeared on the summit of each of the papulæ. It no doubt contains a very minute quantity of fluid, and is in reality a small vesicle.

June 19th, (7th day of inoculation.) The vesicles are now more distinctly formed; their centres are depressed, and of a dark colour; the papulæ, upon which they appeared, (or now more properly speaking their bases,) are broader, and surrounded by areolæ.

June 20th, (8th day of inoculation.)—The vesicles are larger, but retain their pearly colour, as well as the depressions in their centres; the bases and areolæ are larger. The child is somewhat fretful, but cool.

June 21st, (9th day of inoculation.)—The vesicles are larger than those on the arms of the other children, Hogg excepted; the areolæ are wider and of a more fiery red. The child is very fretful, but still cool.

June 22d, (10th day of inoculation.)—The vesicles on the arm retain their colour and the depression of their centres, but they are flatter, and not so turgid with fluid as they were yesterday; the areolæ are much increased in size, and are of a more florid red.

The child was very hot and fretful throughout the night, and remains so to-day. An eruption is now perceptible. It consists partly of vesicles, partly of papulæ. The vesicles are small, raised on inflamed bases, have depressions in their centres, and are confined to the areolæ. The papulæ are very minute, of a red colour, only two or three in number, and confined to the arms.

June 23d, (11th day of inoculation, 2d of eruption.)—The vesicles on the inoculated parts are broader but flatter; the areolæ are wider. The child was very hot and restless during the night, but is rather cooler to-day.

A few more vesicles have appeared in the areolæ, and some more papulæ, like those on the arms, have come out on the nates and

thighs; the papulæ on the arm are larger, and more distinct both to sight and touch.

June 24th, (12th day of inoculation, 3d of eruption.)—The original vesicles on the arm remain of the same size and colour, but their areolæ are now of a brownish tinge.

There has been little or no fever since yesterday. More of the papulæ have appeared generally over the body, but more particularly on the face.

The papulæ which first appeared have now minute pearly vesicles on their summits. The vesicles have depressed centres.

June 25th, (13th day of inoculation, 4th of eruption.)—The appearance of the inoculated part is not altered.

The child is a little fretful, but not hotter than natural.

More of the eruption appears daily; it is, however, not papular, but vesicular from the period that it becomes perceptible. All the papulæ are now converted into vesicles, and all the vesicles are depressed in their centres, and of a pearly colour.

June 26th, (14th day of inoculation, 5th of eruption.)—The inoculated part is not altered in appearance.

The child is free from fever. More of the eruption has appeared, particularly on the face. Most of the vesicles have lost their pearly look, and have become more opaque, and of a straw colour. In the areolæ they are distinctly pustular, and several of them have coalesced with the original vesicles.

June 27th, (15th day of inoculation, 6th of eruption.)—The vesicles on the arm have dried into brownish scales. The child continues free from fever. The eruption on the face is now to be called pustular; on the body it is scarcely so; while in the areolæ the pustules are undergoing a gradual change of colour towards brown. Some fresh vesicles have appeared during last night.

June 28th, (16th day of inoculation, 7th of eruption.)—There has been no rupture of, nor exudation from the vesicles on the inoculated part, in their process of drying up.

The child is fretful, but its skin is quite cool. A few fresh vesicles appeared on the back during the night. The eruption over the body is now to be called pustular. Most of the pustules on the face, and a few on the body, have acquired a brown mark in the centres, which seems gradually to extend itself to their circumference. The eruption now gives a rough horny feel to the finger drawn over the skin.

June 29th, (17th day of inoculation, 8th of eruption.)—The child is still a little fretful, but not hot. The eruption has nearly *in toto* dried up into polished, semi-transparent crusts, of an amber colour. These crusts are of the same form and size with the pustules, and are firmly fixed on elevated hard bases. As the crusts have formed, the redness of the bases has gone off.

June 30th, (18th day of inoculation, 9th of eruption.)—Most of

the remaining pustules have now gone through the same process of incrustation.

July 1st, (18th day of inoculation, 10th of eruption.)—The whole of the eruption has dried up.

July 8th.—Many of the crusts have separated, leaving brown shining maculæ, rather elevated than depressed.

July 13th.—Maculæ are still evident, but unless at the inoculated parts there are no evident depressions.

CASE X.—CHRISTIAN REYNOLDS, aged ten months. June 13th.—Was inoculated in two places on the arm.

June 17th, (5th day of inoculation.)—A papula is now distinctly perceptible at the lower puncture. It is smaller than those on the arms of the other children, and has no inflammation of base. The mark of the upper puncture has gradually disappeared.

June 18th, (6th day of inoculation.)—The papula is less acuminated than it was yesterday, and altogether looks as if it were to go back.

June 19th, (7th day of inoculation.)—The papula is very small, when compared to those of the other children, but it is more regularly circular than any of them. A pearly film can now be seen on its apex, and it will, with greater propriety, be termed a vesicle in future.

June 20th, (8th day of inoculation.)—The vesicle is now more distinct, and shews an evident depression in its centre. Its base (or in other words the original papula) is larger than yesterday, but is less in size, and much less inflamed than those on the arms of the other children.

June 21st, (9th day of inoculation.)—The vesicle is more distinct than yesterday, and still of a pearly colour; it is not so broad, nor flat as those of the other children, but is more circular and cup-shaped than any of them.

June 22d, (10th day of inoculation.)—The vesicle is more distended with fluid, so that its circumference is quite turgid, and overlaps the base, as in the case of the true vaccine vesicle; an areola has appeared around its base.

June 23d, (11th day of inoculation.)—With the exception of the areola being larger, and more of a florid red, the appearance of the inoculated part is not altered.

The child was hot and fretful throughout the night; she also vomited frequently; to-day she is hot; and her pulse is quick.

Several small vesicles, raised on inflamed bases, and having depressions in their centres, can this morning be seen in the areola, but nowhere else on the body.

June 24th, (12th day of inoculation, 2d of eruption.)—The vesicle on the inoculated part is not altered in appearance, the areola, however, has faded much, and in many places is nearly altogether gone. The child is still rather fretful, but cooler. The number of

vesicles in the areola is not increased, nor are the vesicles themselves altered in character. Some few vesicles of the same appearance have come out on the back, arms, and face.

June 25th, (13th day of inoculation, 3d of eruption.)—The areola is rather brighter again; in other respects the inoculated part is not altered. The child is free from fever, and in good spirits. Much more of the eruption appeared yesterday, particularly on the forehead. It retains the characters already given.

June 26th, (14th day of inoculation, 4th of eruption.)—The film of cuticle forming the vesicle on the inoculated part has a dried feel, and has changed its colour to a lightish brown; the areola is as large as ever. The child continues to be free from fever. Much more of the eruption has appeared on the trunk and face, but it is nowhere confluent; it every where, as yet, retains its vesicular character.

June 27th, (15th day of inoculation, 5th of eruption.)—The original vesicle on the arm has now completely dried into an amber-coloured, polished crust, which retains the form that the vesicle possessed. The areola is irregularly increased in size, and the vesicles in it have become of a lightish brown colour, and feel horny to the finger drawn over them. The eruption has on the forehead acquired a degree of opacity and yellow colour, which on the other parts of the body it is destitute of. It appears also that the depressed centres go off, on this change of colour taking place. Fresh patches of eruption continue to appear, particularly on the extremities.

June 28th, (16th day of inoculation, 6th of eruption.)—The crust has been rubbed off the arm, leaving a depression from which a little matter oozes; the areola has become of a brownish hue. The child continues free from fever. The eruption, partly in a state of vesicles, partly in a state of pustules, has acquired a brownish tinge, and feels rough and horny to the finger drawn over the skin; the bases on which the vesicles and pustules were raised have lost their inflamed appearance, and seem more firm and indurated.

June 29th, (17th day of inoculation, 7th of eruption.)—The eruption may be said to have completely dried up into polished, semi-transparent, amber-coloured conical crusts.

July 3d.—A very few of the crusts have separated, leaving brownish maculæ, but no evident depressions.

July 8th.—There is a depression at the inoculated part, but nowhere else on the body.

July 13th.—The brown maculæ are yet very distinct.

The father, mother, fourteen men, and one woman, were in the room with this child; all had had variola; none took any disease.

Case II.—Mary Ann M'Dermott, aged three months.—June 13th.—Was inoculated in two places on the arm.

June 17th, (5th day of inoculation).—The mark of the upper punc-

ture has gradually disappeared; at the lower part, where two punctures had accidentally been made, there are now two distinct papulæ.

June 18th, (6th day of inoculation.)—The bases of the papulæ are more inflamed than those of the other children, and a pearly film has appeared on the apex of each of them.

June 19th, (7th day of inoculation.)—The pearly films are now well formed vesicles; the vesicles are flat, and broad, with depressed centres; bases are not quite so much inflamed.

June 20th, (8th day of inoculation.)—The circumference of the vesicles is still of a pearly colour, and more turgid than yesterday; their centres are still depressed, but have acquired a brown colour; their bases are not so much inflamed to-day as in the cases of Hogg and Conolly.

June 21st, (9th day of inoculation.)—The vesicles are broader, their circumference is not so turgid, and they are more cup-shaped than yesterday; their bases, also, are of a less florid red colour.

June 22d, (10th day of inoculation.)—The vesicles are not altered in appearance, but an areola has formed around them. Though the other children have been all more or less feverish, this girl remains in perfect health, which may in some measure be ascribed to her having been almost constantly kept in the open air.

June 23d, (11th day of inoculation.)—The inoculated part is little, if at all, altered in appearance.

The child is fretful, and does not take its food so well, but it is not hot, or feverish.

Many minute vesicles of a pearly colour have appeared in the areola; there is also one of the same appearance on the right hip, but none on any other part of the body. These vesicles have depressed centres, and are mounted on inflamed bases.

June 24th, (12th day of inoculation, 2d of eruption.)—The original vesicles on the arm have coalesced with each other, and with several of the more recent ones in the areola. The child was in the open air throughout the whole of yesterday. She is a little fretful to-day, but her skin is perfectly cool.

One other vesicle only has appeared; it is on the back, and has the same character with the others.

June 25th, (13th day of inoculation, 3d of eruption.)—The appearance of the arm is little altered, with the exception of the areola, which is of a less fiery red. The child was kept throughout the whole of yesterday in the open air. She is perfectly free from fever; no fresh eruption has occurred; the vesicles which were noted yesterday and the day before are larger, but not otherwise altered in appearance.

June 26th, (14th day of inoculation, 4th of eruption.)—With the exception of the areola, which continues to fade, there is no alteration in the inoculated part. The child is in good spirits. No fresh eruption has appeared. The vesicles retain their pearly colour, and depression of centre.

June 27th, (15th day of inoculation, 5th of eruption.)—The original vesicles have dried into brown crusts; the areola has become of a

purplish brown colour, and its circumference is now very irregularly defined. The child continues in good spirits, and perfectly free from fever. The vesicles in the areola, and the two on the nates and back, have dried into polished brown crusts.

June 28th, (16th day of inoculation, 6th of eruption.)—The inflamed bases of the vesicles have disappeared. The crusts are yet firmly fixed.

June 30th.—The crusts have come off from the back and nates, leaving fleshy purple-coloured tubercles.

July 5th.—Tubercles absorbed, but brownish maculæ remain.

July 14th.—There is a deep depression at the inoculated part, but no where else.

The father, mother, and six men were in the room with this child; all had had variola. One adult (Dean No. 14.) took the disease.

The succeeding cases shew the progress of disease in adults, three of whom had, and one had not had small-pox previously.

Case XII.—John Redmond, aged 21. July 7th. Complains of pains in the abdomen, and about his loins, with headach, heat of skin, and thirst. Two days ago he bathed in the sea, when he was seized with cramps, and was taken out of the water nearly in a state of insensibility.

Sumat pulv. doveri, gr. x. ter die.

8th.—The pains of abdomen and loins continue. He also complains of pain of his chest; pulse full, and about 90.

Mittr. sanguis ad ℥xxx.

9th.—This morning an eruption of small spots, many of which are vesicular, and resemble the variolous eruption, has appeared generally over the body, but more particularly on the face. Says his head is light, and that he has much thirst: pulse 90; tongue white; belly open.

This patient has been living in the same barrack-room with the child Hughes, (No. 8.) who was inoculated from Master Malcolm Hennen, under the conviction that his disease was varicella; but of the real nature of which, there has since arisen much occasion of doubt; and there still exists a difference of opinion, whether it ought to have been considered a case of small-pox, modified by previous vaccine disease, or a case of varicella. The patient has a number of cicatrices on the breast and other parts of the body, resembling those left by small-pox. He says, that they were produced by that disease, which he contracted when about seven years old from three children who were his playmates, and who had the variolous disease by inoculation. He also says, that about five years after that period he lived in the same house with three children during the whole time they laboured under variola from inoculation, and that his intercourse with them was unrestricted.

Bibat pro potu commune solut. supertart. potassæ.

10th.—The eruption has become more numerous, and the vesicles in general are fully formed. Temperature of the skin moderate, with moisture.

Continr. potus.

11th.—Eruption is still vesicular; fresh specks, which almost from

the first contain lymph, appear to come out; but in order to determine this with more certainty, several small spaces in the body have been encompassed with a black line, and the number of vesicles in them counted.

Continr. potus.

12th.—The vesicles have become larger; they are in general of a flat shape, with depression in the middle; their contents are transparent lymph. In some places they have become confluent. There is some redness of the eyes, with stiffness and swelling of the eyelids.

Continr. u. a.

13th.—The face and eyelids are much swelled; some ptyalism; belly open, much thirst, pulse moderate.

Continr. potus.

14th.—On the forehead and face the pustules are acquiring a yellowish crust, and on the body and extremities a few of them have a bluish hue, and appear as if a crust were beginning to be formed in the depression in the middle of the pustules. There is much swelling of the face, and the eyelids are closed; ptyalism is very profuse; pulse full and about 80; heat of skin considerably higher than natural, and communicates a pungent sensation to the hand; no stool since last night.

Lavetur corpus aq. frigidâ. Sumat. nat. vit. ℥j in aquæ ℥vi solutam, partitis vicibus.

Vespere.—The hands begin to swell.

15th.—Salts operated freely. He has taken his breakfast with a good appetite; ptyalism and swelling of the face still considerable; but the eyelids are not closed as yesterday. A more distinct yellow crust has now formed over the face by exudation from the pustules on it; pulse about 90; temperature moderate. On the whole, the symptoms are very remarkably diminished in violence since last visit.

On this day 10 lancets were charged with the matter by Mr Hennen; the matter in some part of the eruption was found to be purulent, in others to be pure lymph.

Vespere.—Temperature in the axilla 102; much general uneasiness.

Lavetur corpus aquâ frigidâ.

16th.—One of the hands more swelled this morning. Swelling of the face as before. Ptyalism less. The exudation continues on the face; but on the body, the pustules are much fuller, and seem distended to bursting, the depression in their centres being in consequence obliterated. The contained fluid is purulent. Pulse 106; heat 100. Made three attempts to go to stool in the night, but ineffectually. The redness, which had been around the bases of the pustules, is much less than it was, and the skin between still retains its natural colour.*

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* The report of this day, and of the 17th, 18th, 19th, and 20th, was made by me, in conjunction with Mr Johnston, and the other gentlemen already mentioned.

Repet. nat. vit. ℥i.

Vespere.—Says he feels much easier, and, as he expresses it, lighter. There is less swelling of the face than in the morning, and there has scarcely been any ptyalism through the day. The redness of the bases of the pustules evidently diminishes, and the interstitial skin is of its natural colour. Temperature in the axilla 99; pulse 100. Asks for animal food.

17th.—Passed a good night. His physic operated twice. Pulse 100; heat 97.. He complains of hunger, and asks for animal food. The swelling of the face is completely gone down; that of the hand is nearly gone, and there appears none in the feet. There are few of the pustules on the face that are not crusted; those on the trunk and limbs have not yet formed crusts, but, in general, are of a more chalky hue than yesterday; a few however, are shining. The skin, in the spaces between the pustules, is nearly natural, (it never had been of a damask rose red.) Traces of inflammation still remain about the bases of the pustules. The matter, both in the chalky and shining pustules, is purulent, and the bottoms of both are of a florid red, as found on removing the skin which contains the matter. On inspecting minutely the pustules on the trunk and limbs, although they seem to differ in point of size and confluence, they all seem to keep pace in point of maturity. On the penis and scrotum the pustules have dried up into scabs of a blackish brown colour, while on the face the crust is yellowish. No fresh crops of eruption have appeared since the 11th, and what appeared then is not now to be distinguished from the first that came out. Some pustules, observed by Dr Duncan and Mr Hennen, on the tongue, which appeared on the 11th, are still visible; but some, observed by Mr Johnston on the palate, cannot now be examined on account of the soreness of his mouth. One pint of broth; two ounces of wine, diluted with water, through the day.

17th.—*Vespere.*—No change since morning. Is free from fever.

18th.—Is to-day much better in every respect. Pulse 80; heat in the axilla 99. Some thirst, but his tongue is moist. Bowels regular, having had a natural stool this morning. Swelling of the face entirely gone. All of the pustules on the face are now crusted, and also some at the roots of the hair. On the trunk and limbs the crusting has not commenced; but on these parts some of the pustules have burst, and are covered with shrivelled skin; others are also covered with shrivelled skin, but have not burst, and the matter seems to be absorbed. Some few minute pustules have come out since yesterday's visit, principally on the abdomen and lower extremities.* Still some swelling of the hands, and the feet more swelled than they appeared yesterday. The scabs on the penis and scrotum are as yesterday; and, on retract-

* Sutton, Dimsdale, and the older inoculators notice the same. Dr Huxham mentions his having occasionally observed a second crop. See his Account of the Anomalous Small-pox at Plymouth in 1724.—Philosoph. Transact. Vol. XXXIII. p. 380.

ing the glans, about twelve pustules are observed. A bruise on his right leg, which he had received a day or two before he came into hospital, when he was bathing, is now crusted over, having had some pustules formed on it.

Vespere.—Continues free from fever, but complains of watchfulness.

Sumat extract. opii gr. iii.

19th.—Convalescence proceeds, pulse 80; heat 96; the crusts on the face are falling off; on the body also, and partially on the legs and arms, the pustules begin to disappear; the progress of disappearance is as follows:—The turgid shining pustule either bursts, and the contained fluid flows out, or it gradually sinks, and the coat of the vesicle becomes shrivelled from the absorption of the contained fluid: the papulæ that came out yesterday, have not increased in number, they are very minute, and many of them now contain a fluid like the larger pustules.

Vespere.—No alteration since morning; watchfulness continues.

20th.—Convalescent, pulse natural, heat 99; some of the crusts on the face have fallen off, leaving behind them small fleshy tubercles at their bases. On the body, the progress of disappearance goes on as described yesterday, and the parts from which the pustules have been removed either by bursting or by absorption, are of a brownish mahogany colour. On the arms some crusts are formed, similar to those on the face, in other places, the disappearance of the pustules goes on as in the body; where he had been bled, one of the pustules has left a deep but small ulceration; on the legs and thighs, the progress of disappearance is more slow, some very few of the pustules have assumed the appearance of bullæ, and some of them, particularly on the feet, have acquired a more firm and solid appearance, probably from the inspissation of the contained fluid; on the soles of his feet and palms of his hands, where the cuticle is hard, the pustules have not burst nor formed crusts, and they appear beneath the transparent cuticle, shining through it as it were, of a dark brown colour.

This man has never complained of cough during the whole of his disease, his urine has not been bloody at any period of the complaint. The few secondary papulæ which appeared on the [illegible] have made no progress.

Baln. tepid.

21st.—Did not sleep last night owing to his not having taken his opium; many of the crusts have fallen off from the face, but there does not appear to be any pits formed in the skin: The greater number of the pustules in the trunk of the body are dried up, and the cuticle of each formed into a firm brown crust; some of the pustules still contain a purulent fluid in the thighs and arms, but they are very flaccid from the absorption of their contents; has a good appetite, functions natural.

Repet. opii gr. iij.

22d.—Slept well, and feels in good health this morning; a few pus-

tules only remain on the feet and hands; in every other part they are dried up.

23d.—Has a phlegmon on the right arm.

Cataplasm. emoll.

26th.—Gains strength daily.

28th.—Continues to recover strength; appetite good, functions natural. There is a small phlegmon on the right leg, similar to that on his arm.

App. cataplasm.

29th.—Phlegmon opened; crusts continue to fall off; is perfectly well, but complains that he does not sleep.

Cont. cataplasm. Adeat balu. calid.

31st.—Convalescent.

No medicine.

August 11th.—Discharged with several recent pits on his face and body, not to be distinguished from those of small-pox.

Case XIII.—John Delany, aged 20, July 12th, complains of headach, with pain of his back and limbs and much lassitude; pulse frequent, skin rather hot, much thirst, belly costive. He awoke with the above complaints last night, and ascribes them to his having caught a cold on the 6th, when he got wet and remained in his wet clothes.

Sumat pulv. antimon. gr. vi., calomel. gr. viij.

13th.—Physic operated well, and before bed-time he felt much relieved from his headach. He did not sleep, and the headach, with general uneasiness, has increased this morning; much thirst, skin hot, pulse 100, has a slight cough.

Mitt. sanguis et sumat calomel. gr. viij. c. pulv. antimonial. gr. iv.

14th.—An eruption appeared about six o'clock this morning, most numerous on the face, and very thinly scattered over the trunk, arms, and limbs. Each speck consists of a minute vesicle on an inflamed base, which feels hard under the finger. The headach and febrile heat are much relieved.

This patient has a number of cicatrices, like those left by small-pox, over the trunk and limbs, but none on the face; says he had small-pox when a child, and was always told these were the marks left by them.

He used to nurse and amuse Serjeant-Major O'Neil's child, (No. 6.) when labouring under the eruption arising from inoculation of a disease, the nature of which is at present doubtful.

No medicine.

15th.—Temperature and pulse moderate, belly open.

Vespere.—Has considerable general uneasiness; heat about 99°.

16th.—Passed the night without sleep, is at present almost free from fever, tongue white, pulse 80, temperature 97°. The vesicles are increased in magnitude, and in the greater number the shape is globular; in a very few the central depression appears; on the forehead, nose,

and cheeks, the vesicles have not each a separate inflamed base, but appear to be placed upon a common base, like herpetic vesicles. On these parts too they are confluent; on the body, limbs, and arms they are more distinct, and each has its separate circumscribed base.

17th.—Says he has some headach this morning; tongue white; no appetite; temperature and pulse nearly natural. Passed the night without sleep. The eruption on the face begins to get a yellowish hue, but without any exudation. In two or three vesicles on the limbs and arms, the central depression is occupied by a livid spot. Generally the vesicles have increased in size, and the flattened shape and depressed centre have become more conspicuous than yesterday; they are, however, extremely various in size, and in some parts, a small red point can be observed, as if the first appearance of the eruption in the skin. The eyes are slightly inflamed, and the eyelids considerably swelled. The inside of the lips and the palate are seen studded with a great number of minute white points like suppurated papillæ.

Vespere.—Temperature of the skin and state of the pulse nearly natural; complains of headach, and evinces much intolerance of light on the approach of a candle. He seems to labour under a depression of spirits and apprehension of the issue of his disease, which is by no means warranted by its present appearance.

18th.—Says he passed a sleepless night. It ought to have been noted before, that, ever since his admission, he has complained of watchfulness. Fresh eruption continues to appear on the trunk and limbs, where the first pustules are but moderately distended, contain lymph, and have still the central depression. On the forehead, nose, and cheeks, a greater number of the pustules have acquired the brownish yellow colour, and in a few exudation has taken place; temperature in the axilla 97°, pulse 80, tongue whitish.

Vespere.—Is restless and extremely irritable, with a painful degree of sensibility in the eyes to light.

Sumat opii gr. iij.

19th.—Slept well during the night; pulse is higher than last night, at the time the opium was exhibited, being 120; heat 100°. He complains of headach, thirst, and heat of skin. The exudation on the face increases; the pustules on the trunk and extremities are more prominent and of a more yellow colour than yesterday; the bases are of a less vivid red, and there are fewer central depressions. There is more swelling of the face, and he has considerable redness of the eyes and hoarseness. The skin between the pustules is almost natural in its appearance, unless on the arms, where it is of a rosy red.

Vespere.—Pulse is 120, and he is very hot and restless.

Repet. pilul. opii gr. iij.

20th.—Slept tolerably, and has no uneasy sensation to-day unless what arises from the skin. His pulse is 120; heat in the axilla 99°, and he has considerable thirst.

The eruption generally is more of a straw colour, the pustules are

larger, but mixed with many small points of the same character. The exudation in the face gives the appearance as if broken down jelly were strewed over the pustules. The face is not more swelled since yesterday, and there is no swelling of the hands or feet. There is more hoarseness and difficulty of swallowing.

21st.—Did not sleep last night; has some ptyalism to-day; rather less swelling of face; the eyes are still red, and very sensible to light; has much hoarseness and slight cough; hands and feet are swelled; the pustules over the trunk and limbs are much distended, and begin to have a yellowish hue; belly open; temperature in the axilla 96°; pulse 98, and full; less thirst.

Vespere.—Pulse full; skin rather hot, but it is bedewed with moisture; feeling of uneasiness not increased.

Sumat opii gr. iij.

22d.—He is at present in a calm natural sleep; the pulse 115; temperature in the axilla 98°. A number of the crusts have dropped off from the chin and lower part of the face, leaving a considerable degree of roughness and elevation of the cuticle on which they were situated. The rest of the face is still partly covered by the crusts formed by the exuded fluid, and partly by distinct unbroken pustules. A few of the pustules on the breast have become flaccid, but the majority are still greatly distended; the skin on the breast and abdomen in the interstices between the pustules has less redness, and begins to acquire a natural colour. On the arms, legs, and thighs, there is still a good deal of inflammation of the skin, and some swelling of the hands and feet continues. On the arms and hands several vesications have arisen, including one, two, or more of the pustules, containing a transparent brownish serum, in which the opaque matter of the pustule floats.

23d.—Slept indifferently; complains of soreness of his back; has some thirst; pulse 88; temperature in the axilla 97°; belly costive; appetite still bad. Many more of the pustules on the trunk have become empty and shrivelled, and those on the extremities begin to be less distended. The large serous vesicles that appeared yesterday on the hands and arms, have fallen down, and are now nearly empty. The interstitial inflammation is almost quite gone, except from the hands and arms, in which there is still some swelling.

Sumat sulphat. sodæ ʒj., et opii gr. iij. h. s.

Vespere.—Complains much of debility and pains of his loins and nates.

24th.—Slept well, and his general feeling is much more comfortable this morning. Pain of loins and nates gone; pulse 80; temperature in the axilla 97°; has an appetite, and wishes to have a piece of chicken. A greater number of the pustules have become distended with a serous fluid on the arms and legs, so as to resemble pretty large vesications; several of them have burst. The feet still continue much swelled; the swelling of the hands is considerably diminished. Almost all the pustules on the face are converted into thick crusts; those on

the trunk are in general shrivelled and empty; while those on the legs and arms are still distended, but, as already observed, their contents are greatly mixed with a serous fluid.

Vespere.—Seems very easy and composed; pulse and temperature nearly natural.

Repet. opii gr. iij.

25th.—Slept well, and is free from fever; pulse natural; temperature 97°. His appetite improves, and he wishes for milk to breakfast. Almost all the pustules on the arms have either been absorbed, or such as were distended into blebs have burst, and are shrivelled. A few flaccid pustules still remain on the hand. All those on the trunk are dried up. They still continue on the thighs and legs, but are much less distended than formerly. In many of these the opaque fluid they contain is mixed with serum, and some of the largest blebs have burst. The swelling is quite gone from his hands, and is also much diminished on the feet.

Vespere.—No increase of fever or change of symptoms.

Repet. opium u. a.

26th.—Passed a comfortable night; feels very well this morning. Pulse and temperature natural; appetite good. The pustules on the lower extremities continue to be either ruptured or absorbed; few remain any where else; the whole surface is extremely filthy from the crusts of the ruptured pustules, and the tenderness of the skin prevents the necessary means for cleanliness being used.

Adeat baln. tepid. et cont. pilul. opii h. s.

27th.—A good number of pustules still remain on the lower extremities, but in a very flaccid state; the feet are still somewhat swelled. His appetite increases and his strength improves. Functions natural.

Contin. opium h. s.

28th.—Remaining pustules on the feet are becoming crusted; swelling of feet diminished; appetite good; bowels costive; slept ill.

Habeat sodæ sulphat. ℥j. Cont. pilul. opii h. s.

29th.—The crusts are falling off all over the body, and the parts where the matter had been absorbed are desquamating; they leave slightly elevated tubercles. Swelling of the feet altogether gone; pulse, heat, and bowels, natural.

Adeat balneum calidum. Cont. pilul. opii.

31st.—Gains strength slowly; his appetite is not so keen as it was two days ago. Pulse, heat, and bowels, are, however, natural. He complains that the half diet is too heavy for him. There is some inflammation of the conjunctiva of left eye, with some appearance of iritis.

Omitt. pilul opii. Cap. sulph. sodæ ℥j.

August 1st.—Convalescent; appetite continues to improve; bowels opened by the salts; inflammation of eye diminished.

Cap. calomel gr. iv. Fovcat. ocul. aq. calid.

3d.—Iritic affection gone; two or three small ulcers on the cor-

nea; gummy exudation from the tarsi. He is otherwise convalescent.

Cont. fotus.

7th.—Eye well. No medicine.

Discharged, with several recent pits in various parts.

CASE XIV.—EDWARD DEANE, aged 18. July 18th, was admitted yesterday, complaining of headach, thirst, nausea, and soreness of the epigastrium, with cough. At present the skin is hot, the pulse full, and rather frequent; the eyes heavy and expressive of languor; the symptoms of yesterday also continue; a few red points appear on the face, breast, and arms, and on the summits of some of them, on near inspection, a very small shining vesicle can be discovered. One on the left wrist is more advanced than the others, and of a bluish hue, with a good deal of inflammation of base. He never observed the eruption till pointed out now. He says that, on the night of the 15th he had a rigor, which was followed by the headach and other febrile symptoms mentioned above. He was inoculated for variola when about nine years old, and has a very distinct cicatrix on the arm at the place of inoculation. He has beside many marks upon the body, particularly on the back and loins, resembling those left by small-pox. Says that he has repeatedly been with people labouring under small-pox, with impunity, since the time of his inoculation. He has been living in the barrack-room with the child M'Dermot (No. 11.) who was inoculated from Mr Hennen's son, and who had an eruption, by some supposed to be variola, by others varicella.

Vespere.—Febrile symptoms continue; temperature in the axilla 103; pulse full, and about 90; belly open.

Lavetur corpus aquâ frigidâ.

19th.—Passed a sleepless night, and complains this morning of headach, heat of skin, thirst, some difficulty of swallowing, and pain in the epigastrium. He has also some cough, and inclination to vomit. Pulse 88; heat in the axilla 101. There does not appear to be any fresh eruption, but the vesicles which appeared yesterday are larger, more transparent, and globular. The fauces are slightly inflamed, and small ulcerated patches of an aphthous nature, appear on the inflamed part of the membrane lining the throat.

Vespere.—He complains much of cough still; febrile symptoms are very mild; some more of the eruption has appeared on the face.

20th.—Passed rather a restless night, but suffers little pain unless from his throat. His pulse is 72, heat in the axilla 98. He has but little thirst, his bowels are open, and his appetite tolerable. His face is now quite studded with an eruption, the greatest part of which is papular, but some are vesicular, with depressed centres; there are also many papulæ and vesicles of the same sort on the trunk, and a few on the extremities.

The vesicles which first appeared on the wrists, ankles, and feet, are much larger than any of the others, globose and transparent.

21st.—Slept pretty well. Complains chiefly of soreness of his throat and headach; pulse 68; temperature in the axilla 98°; belly open, some thirst. The pain he complained of at the epigastrium is gone. Fresh papulæ continue to appear. There is great diversity in the size of the vesicles and papulæ; some of the former are as large as a split pea—while some of the latter are mere points. The vesicles contain a semitransparent fluid. There is slight redness of the eyes, and he complains of the light. On examining the throat, the velum palati and uvula are found much inflamed and swelled, and together with the palate, are thickly studded with small white vesicles. Cough continues.

22d.—He slept some towards morning; the pulse is 75; temperature in the axilla 99°. The vesicles have acquired a white opaque appearance, and are larger than yesterday, but there is still great variety in their size; their figure is also very irregular, and the inflammation at the base of each is unequally diffused, and without sensible hardness. His throat is easier. He complains much of thirst. Eyes red. Face swelled.

23d.—Did not sleep; some thirst; tongue white, but clean at the edges; belly open; face more swelled; cough continues; temperature 100°; pulse 82. The pustules on the face have thrown out on their surface a gummy exudation of a yellow colour; those on the trunk and extremities are quite purulent, and seem fully distended.

Vespere.—General symptoms as mentioned in the morning visit.

Sumat. opii gr. iij.

24th.—Slept well; has no headach; thirst less; cough continues; face and eye-lids rather less swelled; no swelling of his hands or feet; heat of his skin 99°; pulse 85. More of the eruption on the face has become covered with the gum-like exudation, and gradually acquires a darker colour. The pustules on the body and limbs have a straw colour, appear perfectly purulent, and are much distended.

Vespere.—Has no increase of fever; feels tranquil, and disposed to rest.

Repet. opii gr. iij.

25th.—Slept extremely well, and is without any uneasy feeling this morning, except what arises from the soreness of the surface; pulse natural, temperature 98°. On the face many of the crusts have fallen off; others of the pustules are in different stages of incrustation, while a few retain their purulent distended form. On the cheeks, among the pustules that have become encrusted, a number of inflamed papulæ of considerable firmness and hardness under the finger, are to be observed, which like the others are in various degrees of progress, some having acquired yellow suppurated tops, while others appear in their commencement. I am uncertain whether some or all of these are not the tubercular bases from which the crusts of the former pustules have dropped off, but if they are, many of them have again acquired a yellow purulent top. On the chest some of the pustules have been absorbed, and the cuticular sacs have fallen down shrivelled. The greater number, how-

ever, remain distended, and retain their purulent straw colour. Many small papulæ appear intermixed with the more perfect pustules, many of which have the appearance of being in their commencement. On the arms, thighs, and legs, the pustules are still distended and purulent. The swelling of the face is nearly gone, and there has appeared no swelling of the hands or feet.

Vespere.—The hands are slightly swelled; no other change.

Repet. opium, u. a.

26th.—Slept well, and feels himself very easy this morning. Functions natural; appetite good; most of the pustules on the face and trunk are dried, and on the extremities are gradually collapsing; a few have burst.

Repet. opii gr. iij.

27th.—Appetite increases, and all the functions are natural, except some degree of costiveness of the bowels. On the face, particularly the cheeks and chin, the small tubercular eminences, formerly supposed to be fresh eruptions, are extremely numerous, and from their firm structure, and apparently chronic nature, are probably the bases of the former pustules, from which the scabs have been detached. There are none now, which have the yellow suppurated top formerly noticed. The pustules on the legs are still pretty numerous, but flaccid, and half empty. The slight degree of swelling which appeared on the hands is quite gone.

Sumat. nat. vit. ℥i.

Repet. opium h. s.

28th.—Tubercles continue the same on the face and trunk. Some of the remaining pustules on the extremities are forming crusts; in others the matter is absorbed, the cuticle falls down, and afterwards desquamates as on the trunk; in others, the cuticle is first ruptured, the contained fluid exudes, and the same process takes place as in those where the matter is absorbed. Pulse, heat, and functions natural.

Omit t. opium.

31st.—The tubercles on the face are diminishing in size, and leave pits. On the trunk and extremities, where absorption of the contained fluid and desquamation have taken place, there is little appearance of tubercles. He is in every respect convalescent.

August 1st.—Dismissed.

Case XV.—Thomas Davis, aged 26, has been in hospital since the 24th July, preparatory to an operation on his eyes.

August 2d.—Yesterday evening he was attacked with pain in his head, back, and limbs, with alternate chills, and flushes of heat, with nausea and slight vomiting. He passed a very restless night, and to-day is hot, thirsty, and tormented with pains in his back and limbs. His pulse is 100, and pretty strong, his appetite gone, and his bowels costive.

2d.—Sumat. calomel. gr. viij. et postea infusi sennæ, q. s. ad alvum fortiter ducend.

Vespere.—Medicine has operated; the infusion also has produced copious vomiting, but he is not relieved; his skin is hot and dry; pulse 110. Sumat. pulv. antimonial. gr. v. utatur pediluvio.

3d.—Passed a very restless night, but perspired profusely. As might have been expected, the antimonial brought on vomiting. He still complains greatly of pains in his head, back, and loins, to which is added to-day pain in the epigastric region, which is much increased on pressure. The skin is hot, but moist; pulse 110; tongue white, great thirst, and nausea on taking any thing but cold water into the stomach. As this man now acknowledges that he has never had variola nor cow-pox, and as, according to his belief, he has never had chicken pox, there is but too much reason to fear, that his present illness proceeds from one or other of these specific contagions, as in the opposite ward to where he is there have been three cases of eruptive fever, concerning the real nature of which there have been some doubts. This man joined the 88th in France, from the 39th regiment, in July 1815. He has some marks, apparently of small-pox, on his back, so that there was no suspicion that he had not had that disease, and he never confessed until now, that he had it not.

Tegatur quam leviter corpus.

Admitt. liberrime aer egelid.—et habeat pro potu commune aqua fontana.

Vespere.—He still complains of pains in the head, loins, and epigastrium; the pulse is 115; the skin hot, but moist; bowels open. Several small red points are perceptible on the forehead and nose.

4th.—Passed a very restless night, being very hot, and tormented with headach, and pain of the loins. To-day the pains are fully as severe as ever, particularly in the loins. There is still some pain in the epigastrium on pressure, and tendency to nausea. His pulse is 100; heat in the axilla 102; tongue white, but quite moist; little thirst; his bowels were opened last night. More of the eruption has appeared on the face, and a few points on the neck, the trunk of the body, and about the wrists and ankles. The eruption is papular; the papulæ are acuminated, about the size of pin heads, of a bright red colour, and polished.

5th.—Passed a very restless night, but complains less to-day of the pains of his back and limbs; his pulse is 100, and pretty strong; heat in axilla 103. The skin is soft, and during the night has been bedewed with moisture; he has no thirst; his tongue is white, but quite moist; bowels open. More of the eruption has appeared on the face, neck, and extremities; indeed it is now quite confluent on the face, where he has an uneasy sense of burning heat. On some of the papulæ small pearly vesicles have arisen, which in a few instances are depressed in their centres, but by far the greatest part of the eruption is yet papular.

The papulæ are of various sizes; some as minute as pin points;

some nearly as large as split-peas; all of them nearly circular, red and shining.

Habeat. potum egelidum et acidulatum.

Lavet. facies aq. frigid. cum aceto mista.

Vespere.—Continues much in the same state. More of the eruption seems to have appeared since morning; but to determine this with greater precision, a space, one inch broad and about four long, was marked on the breast, which contains three papulæ; another circular one, an inch in diameter, on the neck, containing two papulæ; a third oblong one on the left arm, four inches long, containing nine; and two rather smaller on the right arm, without any eruption.

Sumat ext. opii gr. iii.

6th.—Slept a good deal during the night; but was frequently disturbed with disagreeable dreams and delirium. He feels, on the whole, better to-day than yesterday. His pulse is 90, and soft; heat in the axilla 102. He has a very little thirst, but the tongue is yet quite moist; bowels not opened since yesterday morning. The eruption is still more confluent on the face, and many new points have appeared; for instance, in the first space marked, there are now twenty instead of three; in the second, there are eight instead of two; in the third, there are thirty-six in place of nine; and on the blank spaces on the right arm, there are now twelve in one, and nine in the other.

The eruption is now generally vesicular, though there are still many papulæ, and a few approaching to the characters of tubercles. The vesicles are pearly coloured, and many of them depressed in their centres. The bases of the vesicles, and the papulæ and tubercles, are of a raspberry colour. The fauces are considerably swelled, red, and studded with vesicles.

Admittr. liberrime aer egelidus. Habeat potum frigid. acidulat. et utat. gargarism. astring.

Vespere.—Complains more of his throat; the tonsils and submaxillary glands are much swelled, and there is considerable ptyalism; the face also is considerably swelled, particularly the nose and lips; bowels not open to-day.

Sumat calomel, gr. viij.

7th.—Passed a very restless night, but does not on the whole think himself worse to-day. He complains however of his throat, and of soreness and stiffness of the face and skin generally; his pulse is 86 and soft: heat in axilla 100; he has less headach, and no pains in the loins or epigastrium; anorexia is gone; tongue white, but kept very moist by the copious ptyalism which has appeared; bowels not yet opened. More of the eruption has seemingly appeared, but from the marks being obliterated, this cannot be stated with accuracy. Very little of it now remains in a papular state, being almost every where vesicular.

The vesicles have rather irregularly circular bases, of a fine raspberry colour. On the face these bases extend so far, and the vesicles

are so close, that there is not a single point unless the under eyelids, which are not of a deep raspberry colour. On the trunk the eruption is here and there more sparse, but in many places it is collected into crowded patches, and this is particularly the case on the extremities. The vesicles themselves are of a pearly colour, broad and flat compared to what they were yesterday; few of them have depressed centres. On the soles of the feet, which are completely studded, the vesicles are below the level of the skin, but are marked out by a pearly ring inclosing a transparent globule of fluid. Face is more swelled and fauces more inflamed.

Sumat. post horam, si non prius descendat alvus,
Magnesiæ sulphat. ℥j.
Contin. ablutio frigid. et potus accidulat.
Habeat. linct. accidulat.
Sumat. vespere ext. opii gr. ij.

8th.—Passed a very restless night, but does not on the whole think himself worse this morning. He has no pain unless what proceeds from the throat and skin; his tongue is moist, though still white; he is not unusually thirsty; his bowels were once opened by the medicine given yesterday; his pulse is 106, heat in axilla 102. The face is swelled to an immense degree; the submaxillary glands are greatly enlarged, but there is little ptyalism.

More of the eruption has appeared; the vesicles are broader but flatter; they retain their pearly colour, generally speaking; but a few of them on the face are of a yellowish hue, and feel rough to the finger like the surfaces of ragged warts. Very few of the vesicles are now depressed in their centres; some of them are small, prominent, and circular, while others are large, flat, and irregularly shaped. The colour of their bases is of a deeper raspberry than yesterday.

Fauces are still much inflamed, and a very thick mucus is secreted, causing great hawking and spitting.

Repet. magnesiæ sulph. ℥j.
Cont. potus acidulat. et linctus ut heri.

Vespere.—He is more anxious, and complains more than in the morning, but the complaints are more referable to apprehensions of a fatal termination of his disease, than to any new topical affection, or increase of the old.

Sumat. ext. opii gr. iij.

9th.—Passed a very restless night, and is anxious and very irritable to-day. He complains principally of his throat, where the inflammation and swelling are now so great as to render deglutition very difficult; he has also headach to a considerable degree; his pulse is 100, and smaller; heat in the axilla 102; there is no thirst, but the tongue is much loaded, though kept moist by the great ptyalism. He was unable to swallow the purgative, and his bowels were not opened until an enema was given this morning, which produced two copious stools. The body is so covered with the eruption, that it is

impossible in reality to say whether fresh vesicles have come out, though it appears so. Several more of the vesicles on the face have acquired the same roughness and change of colour as those mentioned yesterday; indeed, the whole of those on the face are of a yellowish hue, and the redness of their bases is less vivid.

On the body the eruption is still of a pearly colour; the vesicles are broader but flat; the redness of their bases is more of a rosy hue, the swelling of face is increased, more particularly of the eyelids; ptyalism profuse.

Contin. potus accidulat. Inhalatur vapor aq. calid.

Vespere.—He is not worse than at the morning's visit, but very restless and uneasy.

Sumat haustum e tinct. opii gtt. xc.

10th.—Passed a very good night, and thinks himself much better to-day. Headach is almost gone, and he has no uneasy sensation unless what arises from the stiffness of the skin. His pulse is 112, and rather small. Heat in the axilla 102. He has no thirst; his tongue is white, but kept moist by the copious ptyalism; his bowels have not been opened since yesterday morning. The swelling of his face is less. The fauces and submaxillary glands are not quite so much swelled, and deglutition is rather easier. The whole of the eruption on the face has now become incrusted, the surface of the crusts being of a yellowish colour. The bases are still of as bright a red, and so much compacted, that there is scarcely over the whole body a point of skin of its natural colour. On the soles of the feet the pearly ring is now of an opaque white, and the transparent centres of the vesicles are of a yellow colour, but there is still no elevation to be felt by drawing the finger over them. On the trunk and extremities the vesicles have become of a chalky white, having their centres of a semi-transparent straw colour.

Inhalat. vapor. aq. calid. ut heri.—Sumat. olei ricini ℥i.

Vespere.—Has had a good deal of vomiting since he took the oil. It has not produced any evacuation by stool.

Habeat enema purgans, et alvo soluta sumat. tinct. opii gtt. xc.

11th.—The injection produced only one stool. The vomiting ceased after taking his draught, he slept a good deal through the night, and he feels much better this morning. He has still slight headach, and is very desirous to drink, but is deterred from indulging himself on account of the pain, and difficulty of deglutition. There is still considerable ptyalism; swelling of face continues, but there is none perceptible in his hands or feet. The incrustation of the pustules on the face is more perfect than yesterday, but the pustules on the trunk and extremities still retain their chalky appearance, with the exception of a few, which are beginning to assume a light straw colour. They are all of a flattened shape, and do not appear much distended. There appears to be very little hardness or elevation of

their bases, but the interstitial skin presents a uniformly inflamed surface. Heat in the axilla 103; pulse 110.

Vespere.—There is little change in the general state of his feelings since the morning; feels no disposition to sleep.

Sumat tinct. opii gtt. xc.

12th.—Slept well last night, and is disposed to sleep at present. Swelling of the face has subsided in some degree. The ptyalism continues. There is no swelling of the hands or feet. The change of colour from a chalky white to a light straw colour in the pustules on the trunk and extremities, has become more general, and on the arms and hands several of the pustules have crusted, so as to form large bullæ, of a darker brown colour than the others. The interstitial skin retains the uniform erythematous redness described yesterday. He has less difficulty of deglutition; belly open.

Vespere.—General symptoms nearly as described in the morning.

Sumat ext. opii gr. iv.

13th.—He slept pretty well during the first part of the night, but was watchful towards morning. The swelling of the face is almost gone, except that of the eyelids, which are still tumid. The ptyalism appears to be gone. No swelling has taken place in the hands or feet. The bullæ, which yesterday were mentioned as being formed by the union of several contiguous pustules, have burst, and are dried up. In other respects, the eruption seems to have undergone very little change since yesterday. The erythematous redness of the skin is perhaps less vivid than before. Pulse 136; heat in the axilla 104°; belly open.

14th.—Had his opiate last night, but he says himself he did not sleep; the other patients however say he slept well about four hours in the beginning of the night. He betrays unusual impatience and irritability of temper. He expressed great impatience for his breakfast, and took it with a good appetite; pulse 118; temperature 104. The pustules on the back, with many of those on the breast and arms, have burst. All the others have become quite flaccid from the absorption of their contents. The erythematous redness of the skin is much less vivid, and in a few parts it has acquired its natural whiteness.

Habeat vin. rub. ℥iv. in die.

Vespere.—Has much general uneasiness, but without being able to describe particularly his feelings. He complains of cold, and at the same time the surface gives to the hand a pungent sensation of heat; the pulse is tremulous and indistinct; the ptyalism has recurred in a slight degree; the smell arising from the body has become most nauseous and disagreeable.

15th.—He died this morning at five o'clock.

Sectio Cadaveris.—On opening the head, there was found in all the ventricles of the brain, and in the cavity of the spine, a considerable quantity of serous fluid. The pineal gland was larger than usual,

semi-transparent, like a straw-coloured pustule, and was found to contain purulent matter. *

About two ounces of serous fluid were contained in the right cavity of the chest; in every other respect, the viscera of the thorax were remarkably sound.

The viscera of the abdomen were also natural, except that the omentum was somewhat redder than usual, and the stomach much contracted in size, and its veins turgid. The gall-bladder was a good deal distended with yellow bile. The entire tract of intestines were free from pustules, but a few could be traced on the œsophagus, dispersed from the pharynx to the cardiac extremity of the stomach. No ulceration of the cutis vera was to be observed.

In my various examinations of these cases, I could never perceive the peculiar variolous smell mentioned by most authors, and familiar to many practitioners. I attributed this to the great attention paid to cleanliness and ventilation, but other observers were very sensible of a peculiarity of smell. In my son, for instance, there was remarked a pungent sulphureous smell, both of his person, bedding, and clothes, for two or three days after his fever had abated, which his mother supposed to proceed from fire-works, which she imagined the boy might have been amusing himself with. She describes the smell as precisely similar to that from the explosion of gunpowder, and the domestics, and other members of my family, concur in the same representation, and were even induced to search the child's pockets before the circumstance had been mentioned to them, but in vain. Dr Hugh Ferguson, on one occasion, complained to me, that he perceived a peculiarly pungent odour about Redmond, which was so tenacious, that he did not recover his natural sensation for some hours after having left the ward in which he lay. Mr Johnston always perceived a sickening heavy disagreeable odour both about Redmond and Delany. Dr Bartlett frequently endeavoured to trace any distinctive smell, but without success; one day, however, on the bursting of some of the bullæ on the legs of Delany, he was most forcibly struck with the peculiarity of the smell, a peculiarity which no words could express. In Davis's case, although I smelled to the recently opened pustules, where they had run together into a large bag of purulent matter, I could detect no smell. Mr Johnston, however, and others, were very sensible of a peculiar-

* Would this matter have communicated small-pox? That of common external abscesses does not.

ly disagreeable, though not pungent smell, whenever the bed-clothes were lifted from his person. Dr Thomson was equally insensible to any smell as myself; but I ought perhaps to mention, that there is no animal smell to which I am particularly sensible, except that which attends hospital gangrene; and this I have often distinguished before entering a ward, while those who were dressing the patient did not perceive it.

The following case occurred at the Glasgow Military Hospital, under the care of Doctors Jones and Barry, of the 40th regiment. I give it in Dr Jones's words; and, although it does not belong to the series already related, it is so striking, and gives rise to so many important considerations connected with the present inquiry, that I shall make no apology for inserting it.

"Angus Monro, aged 26, a recruit for the 78th regiment, a highlander, was reported on the 30th of June. Says that he was a little unwell some days back with symptoms of fever. He has now eruptions about the shoulders and thighs, apparently of distinct variola, but attended with little or no efflorescence; he is perfectly free from fever. By the account of the serjeant who brought him, he was inoculated at the vaccine institution on the 15th of June, and directed to return in eight days after, when the vesicle was pronounced genuine. At present (30th) the inoculated part presents a brown, broken, scab. July 4th, eruptions filled with thick pus; no constitutional fever. 8th, Matter becoming dry and falling off in scales. 17th, The eruption has totally disappeared, leaving scarcely any, or very shallow pits.

"The man's general health has been perfectly good since his admission into hospital; but being unable to speak a word of English, I could not obtain the whole of his history from himself. It appeared to me that the constitution, being partially affected with the vaccine virus, greatly modified that of variola."

On my late visit to Glasgow hospital, I wished much to see this man, and ascertain the state of the cicatrix, but I was disappointed. The following extract of a letter from Dr Barry is, however, sufficiently satisfactory: "August 10th.—On Saturday last I had an opportunity of inspecting Monro. The scab had fallen off, leaving a mark on the cuticle of a dark brownish hue about the size of a sixpence, with several small pits, or cellular cicatrices spread over it, not very deep, but perfectly apparent to the naked eye, and promising to leave a permanent mark."

Many instances similar to the above are on record, where

variola being contemporary, or nearly so, with vaccination, the former has been modified by it. A most striking proof of this is given by Dr Derenzy, in the correspondence of the directors of the Cow-pock Institution of Dublin. A child had been inoculated with small-pox, and on the same day Dr D. inserted the vaccine virus; the variolous pustule and vaccine vesicle exhibited the usual appearance, but no eruption ensued; the child was more indisposed than usual in cow-pox, but not so much as all around it who had been inoculated with variolous infection. Mr Roulston in the same publication mentions, that he vaccinated five children in the same family; the small-pox appeared on one the third day; the other children went regularly through the stages of cow-pox, and did not take the variolous infection, though lying in the same bed with the child labouring under small-pox. Mr Chamley, surgeon of the South Cork Militia, mentions a case of variola and vaccine proceeding together, the child having imbibed the former disease unknown to him; the variola was the very mildest he ever saw. Mr Brady, surgeon of the Leitrim Militia, mentions a case where vaccination suspended the progress of variola; and Dr Hall of the Roscommon Militia has, in many instances, succeeded in preventing small-pox from spreading, by vaccinating children in the same house with others labouring under that disease. (See also Bryce on the Cow-pox, 2d edition, page 104 and 192.)

So perfectly convinced am I of the preventing and modifying powers of the vaccine inoculation, that I should never hesitate about employing it, even though it were probable that my patient had imbibed the small-pox infection; nor should I be deterred from the practice, by the idle suppositions of the nurse that I was too late, or the learned objection of the doctor that the two diseases could not coexist; experience very clearly demonstrating, that there is still something in the mutual relation of these diseases to each other, that has not been yet satisfactorily elucidated.

If any fact on record should have more weight than another on the subject of the preventive powers of cow-pox, it is the recent and well authenticated one, related by the Directors of the Institution in Dublin, from whose correspondence I have derived some of the interesting facts alluded to in the preceding paragraph. They state in their report, dated January 1st 1818, "That many remarkable instances of exposure to variolous contagion, and of subjection of the powers of vaccination to the most rigorous tests, are detailed by their correspondents. One case deserves to be particularly mentioned, as having fallen under the immediate observation of the directors. A patient de-

livered at the Lying-in Hospital, was seized with confluent small-pox; her infant was vaccinated a few hours after birth; the cow-pox proceeded regularly, and the child was not attacked with variola, although never separated from the mother, who died of the disease on the 11th day."

I shall not intrude much longer on the time of your readers, but shall offer only a few of the numerous suggestions which the foregoing cases give rise to.—After the most mature consideration, I must explicitly avow, that nothing has occurred in these cases which has in the smallest degree shaken my opinion of the great and pre-eminent importance of the practice of vaccination, whether we view it as a preventive of small-pox in a vast majority of cases, or as a most effectual neutralizer of its malignity in the comparatively few instances in which, from some peculiarity of constitution, or some anomaly in the process, hitherto not fully developed, it has failed to afford this permanent security.

On the contrary, it appears to me, THAT THE WHOLE SERIES OF CASES WHICH I HAVE GIVEN, PRESENT THE MOST TRIUMPHANT EVIDENCE IN FAVOUR OF VACCINATION, AND PLACE, IN A MOST CONSPICUOUS POINT OF VIEW, THE INFINITE ADVANTAGES TO BE DERIVED FROM THE PROCESS, WHEN JUDICIOUSLY CONDUCTED.

If the more anomalous among the foregoing cases are considered as merely aggravated instances of Varicella, the value of the Jennerian practice is in no shape affected by them, except, indeed, that it is clearly shewn, that that practice renders not only Variola but Varicella also more mild; for in the cases Nos. 3 and 5, as well as in that of my youngest son, and of the child mentioned at page 414, all of whom had been satisfactorily vaccinated, the disease was very mild, and it was beyond comparison milder in my vaccinated son, than in some of the unvaccinated children who were inoculated with matter taken from him. It is also well worthy of remark, that a vaccinated child who slept in the same room with O'Neil, (No. 6,) and was in hourly communication with her, escaped all disease whatever, while both the unvaccinated children in the room with Hogg, (No. 7,) caught the disease from him. One vaccinated child only, out of eighteen, caught any disease in the Castle, from the inoculated children.

I cannot but direct the attention to the vaccine character, both in the external appearance, and in the internal cellular structure of the vesicle, which was impressed on the disease communicated from my son, as will be apparent on perusing the cases, and which was so strongly marked, that Mr Bryce, whose perfect acquaintance with the vaccine vesicle in all its forms is univer-

sally acknowledged, was forcibly struck with the great similarity to the genuine cow-pock, which the vesicle on the arm of the child O'Neil (No. 6.) presented, and the very striking resemblance which that on the arm of the child Hogg (No. 7.) (the very severe case) bore to the spurious cow-pock. *

If, on the other hand, the foregoing cases are considered as the Horn-pock, or the Steen-pock, that disease, as I understand from the first medical authorities, was well known in this country before the introduction of vaccination, and frequently occurred in persons who had previously gone through the genuine small-pox, *although never noticed of later years as an objection to variolous inoculation.* In this case also, Vaccination will be found to have manifested its neutralizing powers. But I have witnessed it still more remarkably among the children of the lower class in the neighbourhood of the Castle, where, while this disease has raged violently among the non-vaccinated children, many instances have occurred of those who have gone through that process, having the complaint in the very mildest possible form, and many of them escaping it altogether; a fact exhibiting the results of a more rigid ordeal of the preventive powers of vaccination, than can be imagined by those who have not witnessed the incredibly crowded and confined apartments, in which these compact masses of human beings gasp for air, while, from the mutual friction of their bodies under the same scanty covering, the most intimate contact takes place between the sound and the diseased, and, in many instances, effects a complete and constantly renewed inoculation. †

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* Vide a very interesting paper by this gentleman, Edin. Journal, Vol. VII. p. 410. for further observations on this character.

† Dr Thomson first took me to see the children alluded to in the text, and I afterwards had an opportunity of seeing others, with Drs Monro, Duncan, and Abercrombie, Mr Bryce, Dr Tweedie, and Dr Bartlett. The following facts may assist the reader in forming his judgment.

In one room, under the Castle Hill, having one window, one door, and one fireplace, of the dimensions of 13 feet by 10, and eight high, and containing the father, mother, and five children in two beds, all the children were ill of an eruptive disease. They had all, by the mother's account, been vaccinated. The youngest, who presented a genuine cicatrix, had a very slight disease, with very little fever; the elder children, in whom the cicatrices were by no means so well marked, had a very severe disease.

In another room in the same pile of buildings, with one window, one door, and one fireplace, 14 feet by 11, and eight high, lived the father, mother, and four children. They all slept in the same bed. Of the children, three presented the genuine cicatrix; they all escaped disease. One who never had been vaccinated, or had small-pox, took a most severe disease, and died on the seventh day.

Finally, if it be admitted that the disease in the adults was Small-pox, whether genuine or modified, it adds five more additional proofs, to those already on record, of that disease occurring a second time in the same individual, and with this very remarkable circumstance attending them, that they all occurred consecutively, and in all human probability from the same source of infection. An officer of dragoons now in this neighbourhood, is another authentic living instance of the disease a second time, and many persons under similar circumstances are still in existence; Dr Bateman has lately given us two unequivocal cases of the same kind, in the second volume of the Me-

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In the next room to this, with one door, one window, and one fireplace, 11 feet by 9, and eight high, lived the father, mother, and three children, and all slept in the same bed. One child had a few specks, rapidly drying up on the fifth and sixth days, with little fever; its arm presented the genuine vaccine cicatrix. Another child, with a questionable cicatrix, had several specks drying up on the sixth day, with much more fever than the first child; but the third child, who never had been vaccinated, had a very severe disease, the eruption continuing nine days out, before it began to crust.

In a house at the bottom of Currie's Close, somewhat more distant from the Castle than the former houses, and in a very confined situation, resided a man, his wife, and four children, in a room with one door, one window, and one fireplace, 15 feet by 10, and seven and a half high. They had but one bed. Three of the children, who had had the natural small-pox two years before, escaped all disease whatever; the fourth, who had never had small pox or been vaccinated, was attended by Dr Maclagan in a most severe confluent disease, allowed, without any question, to be small-pox, of which it died on the 17th day. In the opposite room, separated only by a narrow passage, of the same dimensions, and with similar means of ventilation, lives a shoemaker, his wife, and four children. They have but one bed. All the children had been vaccinated; three of them have the genuine cicatrix, extremely well marked, and escaped the disease altogether; the fourth had a very few horny spots, which dried up on the sixth day of their eruption, and were attended with little or no fever; the cicatrix on its arm is by no means so distinctly marked as that of its brother and sisters.

In another house, where the eruptive disease raged above, below, and on each side, and had in one instance proved fatal, a child, with a remarkably distinct cicatrix, was shown to me by his mother, with no small share of triumph, as having escaped all disease, though he slept with those who had it, played all day in the same room, fed out of the same bowl, and used the same spoon as they did.

On calculating the dimensions of the above mentioned low roofed apartments, it will be found, that in some the number of superficial square feet to each resident scarcely exceeded $18\frac{1}{2}$, and that in the least crowded it was no more than $25\frac{2}{3}$. In military hospitals we never allow less to each bed than a superficial square of 36 feet, however high the roof of the room may be, or however ample the means of ventilation, but we are very seldom reduced so low as this; in the Castle hospital our allowance is 72 feet, and in the Depot 73, to each patient, while the roofs are about 10 feet high in each, with an ample supply of cross windows, doors, fireplaces, and ventilators, both in the walls and ceilings.

dico-Chirurgical Transactions, and has referred to some others, among them some fatal cases. But for the satisfaction of those who may wish to consult and analyse many more authors, or who, from their access to extensive libraries, may have an opportunity of seeing the original works, which in some instances I have not enjoyed, I give in a note, a very long catalogue, the basis of which is formed from the "Literatura Medica Digesta" of the learned and industrious Ploucquet, to which I have added a few more recent authorities. It is probable that others are to be found on record; and that many since the time of Rhases have escaped all observation whatever, or, in the unbounded confidence of practitioners in the universality of the law, that the disease can be taken but once, have been set down as cases of aggravated or confluent varicella. A sufficient number of unquestionable cases, however, are extant to prove, that, if vaccination does not afford an *infallible* preventive of the subsequent occurrence of small-pox *in all cases*, neither does the previous existence *even of small-pox itself*, act as an *infallible* preventive of its future recurrence. It is worthy of remark, that, from the experience of some of the living authorities quoted below, the cases of small-pox a second time have in several instances occurred after inoculation with the variolous matter, and in some have proved fatal. I refer particularly to the evidence of Messrs Ferris, Ryan, Simpson, Walsh, and Sayers, in the very valuable documents recently published by the Directors of the Dublin Cowpock Institution, which so triumphantly demonstrate the superiority of the vaccine inoculation. There is also one very valuable fact stated by the latter gentleman. He met with an instance, where the *true* small-pox occurred a second time in a person who had previously gone through that disease, and who in the interval had varicella.*

* The doctrine of the occurrence of small-pox a second time was first broached by the Arabian physician Rhases, who wrote in the 10th century; and Avicenna, in the 11th, concurred in opinion with him. Since their days, eminent men of all countries and periods have delivered the same doctrine. John of Gaddesden, who flourished in England in the 14th century, states it in his "Rosa Anglica" as an occasional occurrence. Peter Forestus of Alkmaar, who flourished in the 16th century, gives the case of his own son and of others, who underwent a second attack. A son of Fracastorius, the poet and historian of Verona, who lived about the same time, suffered also the same repetition of small-pox. Willis repeated the observation of John of Gaddesden in the early part of the 17th century in England, and, about the same period, Diemerbroeck witnessed numerous instances in Holland.

After inoculation had been patronized in these islands by Queen Caroline in the early part of the 18th century, and two of the royal family had been sub-

Laws which we can never develope, govern the susceptibility to variolous contagion; and it is highly probable, as has been observed by the ingenious Jenner, "that the susceptibility to receive it always remains through life, but under various mo-

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jected to it in 1722, in consequence of the well known letter and the example of Lady Mary Wortley Montague, the whole mass of the ignorant population, and a few of the clergy, were loud in their reprobation of the practice; inoculation was represented as irreligious, and even atheistical!—and the Rev. Mr Massey, in a sermon preached in London on the 8th of July 1722, not only accused the patrons of the practice of being "hellish sorcerers," but stated the very extraordinary historical and pathological fact, that Satan himself had been an inoculator, and that Job had been his patient! The following was the passage of Scripture upon which this learned and profound divine declaimed:—"So went Satan forth from the presence of the Lord, and smote Job with sore boils, from the sole of his foot unto his crown."

A very different opinion had been formed of Job's complaint, by some other sagacious critics, upon grounds equally conclusive. But be that as it may, the wags were determined to support the medical character of the Devil; and they produced the following Epigram upon the subject, more distinguished for its point than its poetry:

We're told by one of the black robe,
The Devil inoculated Job;
Suppose 'tis true what he does tell,
Pray, neighbours, did not Job do well?

(Vide Woodville's History of Inoculation, and Moore's History of Small-Pox.)

The learned Dr Mead exerted himself to repel these absurdities; and, in his zeal for inoculation, positively denied that small-pox ever happened twice, in order to prove the vast utility of submitting to that process, and having all fears of the natural disease at once terminated. Van Swieten, who was very firmly prepossessed against inoculation, also positively denied the truth of the reported occurrence of small-pox a second time after the *natural* disease; but he declares that there were many undeniable examples of persons, who had the disease by *inoculation*, contracting the genuine variola afterwards; and thus, as the ingenious historian of small-pox justly observes, "one prejudice overcame another, and truth prevailed." The death of Louis XV. by an attack of small pox at the age of 64, after having already had it when a youth of 14, is well known, and rung all over Europe; but, since the discovery of the illustrious Jenner, the Antivaccinists, in their anxiety for the honour of small-pox, have made a point of denying the possibility of its recurrence in the same individual, under any circumstances. The following list of references to cases of this description, will, I apprehend, satisfy the most sceptical upon this point, if any human testimony can satisfy them.

Aasheim in Act. Reg. Soc Med. Hafn. Vol. III. p. 330.

Aaskow, or, (according to Kuhn. in his Thesis, p. 8.) Anonymous, in Collect. Soc. Med. Hafn. II. p. 91.

Act. Nat. Cur. Vol. III. Obs. 34.; Vol. V. Obs. 31.; Vol. X. Obs. 64.

* Adams's Answer to all Objections, p. 29.

* Adams's Thesis De Variola et Vaccina. Edinburgh, 1814.

N. Act. Nat. Cur. Vol. VII. Obs. 31.

Allgemeine Literaturzeit, 1789, p. 839.

difications or gradations, from that point where it passes silently and imperceptibly through the constitution (as is frequently the case with cow-pox), up to that where it appears in a confluent state, and with such violence as to destroy life."

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* Amatus Lusitanus Curat. Med. Cent. 3. Schol, p. 453.

Andresse, Dis. de Variolis eundem Hominem pluries infestantibus. Halae, 1810.

* Azzoguidi, Lettera sopra il Vajuolo, p. 7.

Baldinger, N. Magazin, X. B. p. 316.

* Bateman in Medico-Chirurgical Journal, Vol. II. p. 31.

* ——— Edinburgh Medical and Surgical Journal, Vol. VI. p. 123.

* Blane, Sir Gilbert, Serious Address to the Public, published anonymously, 1811.

Borellus, Cent. 3. Obs. 10.

Bresl. Samml. 1717, p. 25.

Brera, Giornale di Medicina, I. n. 4.

* Bryce on Cow-Pock, (case from Jenner,) p. 62; and App. IV. 2d edit.; and in Monro's Observations on Small-Pox, p. 32.

* Burserius, Institution. Medicin. Vol. II. p. 157; or, translation by Brown, Vol. III. p. 10.

* Buchan's Domestic Medicine, 7th edit. p. 218.

* Buckwald, Compend. Med. Pract. Fasc. 1. c. 21. § 210.

Burton, Journal de Medicine continué, Vol. XII. p. 291.

Camerarius, Theses misc. Tub. 1724.

Chretien, ueber die Impfung der Blattern, p. 115.

Commerc. Liter. Nor. 1741, p. 66; 1742, p. 413.

De Copello in Verhandelingen van Haarlem, 8. 2. p. 206.

Darcet in Gazette de Sante, 1788, n. 10.

* Deering's Improved Method of treating Small-Pox, 1737; and also in Woodville's History of Inoculation, Vol. I. p. 217.

* Diemerbroeck, Anatomy of the Human Body.

——— de Variolis et Morbillis. Hist. I.

Van Doeveren in Verhandelingen van Haarlem, 12. n. 6.

——— Verhandeling over de Waare Kinderpokjes die meer dan eemal den helfden Menschen antasten. Haarlem, 1770, 8.

* ——— in Comment. Lipsiæ, V. XVIII. P. 4. page 586.

* Dryfhoult, Com. Soc. Scient. Haarlem, T. VIII. P. 2. page 260.

* Dunning, Case reported in Lond. Med. Repository, Vol. III. p. 204; and in Moore's Reply to the Antivaccinists, p. 55.—I have not been able to meet with the original pamphlet.

* Edinburgh Medical and Surgical Journal, Vol. III. p. 156; Vol. VI. p. 123; Vol. XIV. p 397.

* ——— Review, Vol. IX. No. 17, p. 32. *et sequent.*

Ephem. Nat. Cur. Dec. 2. Ann. 4. Obs. 29. Ann. 6. App. p. 12.

Farion, von Zweimaligen Pocken, 1763, 8.

* Ferris in Correspondence of Dublin Cow-Pock Institution, 1818, p. 14.

Forestus, L. 6. Obs. 43.

Gastelier in Gazette de Santé, 1777, p. 30.

Gazette Salutaire, 1761, n. 38; 1765, n 7, 8, 40, 43, 45, 49; 1766, n 4.

——— de Santé, 1776, p. 127.

Girardi, Ritorno del Vajuolo. Padua, 1776.

The fact of small-pox partially affecting persons who have already had the disease, while employed as nurses to children labouring under it, proves this to a certain extent; but the existence of

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Goulard in Journal de Médicine, T. X. p. 257.
De Haen, Rat. Med. P. 9. c. 7. § 2, 3.
Hafner in Baldinger N. Magazin, X. p. 316.
Hagendorn, Cent. 2. Obs. 60.
* Haller's Beytr. von. Crell, B. 2. p. 359. Note A.
Hartenkeil in Salzb. Med. Chir. Zietung, 1800, 4. p. 218.
Hensler, Diss. de Morb. Variolos, 77.
* —— in Medical and Physical Journal, Vol. XII. p. 318.
Hufeland, Bemerkungen, p. 221.
———— Journal der practischen Heilkunde, 13 B. 3 st. p. 166.
* ———— Journal, Vol. XL. c. p. 87. Berlin, 1815.
Jahn in Stark H. Archiv fur die Geburtshuelfe, &c. 2 B. p. 174.
* Jenner, in Medico-Chirurgical Transactions, Vol. I. p. 272.
* ——— Further Observations on the Variolæ Vaccinæ, 1799.
* ——— Continuation of Facts and Observations on Variolæ Vaccinæ, 1800.
Journal des Scavans, 1759, p. 346.
* Jovanelli Avis sopra la salut. uman, 1776, N. 9, p. 71, N. 10, p. 79.
* Jurin, in Philosophical Trans. No. 373, Vol. XXXII. p. 191, or Old Abridgment, Vol. VII. p. 621.
Kite, in Memoirs of the Medic. Soc. of London, Vol. IV. p. 114.
Klaerich, in Berlin Magazin. IV. p. 473.
———— Hannov. Magazin. 1776, n. 93.
* Krapf, in Hufeland's Journal, Vol. XL. p. 87. Ann. 1815.
Kuhn, Pr. de variolis bis eundem hominem infestantibus. Lips. 1812.
* Lane's Address to the Inhabitants of Arundel, May 17, 1810.
* Laird, in Edin. Med. and Surg. Journal, Vol. III. p. 156.
* Lilius Avis sopra la salut. uman, ann. 1777, p. 167, and ann. 1778, N. 36, p. 281.
Linckvogel, in Hannov. Magazin. 1776, n. 28.
* Leese, Explanation of the Cause why Vaccination has sometimes failed, &c. p. 60.
* Lettsom's Observations on the Cow-Pock.
Loeber, (Christ.) Sendschreiben von dem Wiederkommen der Pocken nach geschehener Einimpfung, Lpt. 1767. A. D. B. B. 12. 2. p. 253.
Macquart, in Journal de Médicine, T. VIII. p. 39.
* Maitland's Account of Inoculating the Small-Pox, 1722.
Mareschal de Rougeres, in Journal de Médicine, T. XXXIX. p. 240.
* Marescot de Variolis, p. 128.
Medicus et Petit, deux lettres sur les rechutes et la contagion de la petite verole. . annh. 1767.
* Medical and Physical Journal, Vol. V. p. 403. Vol. XII. p. 318. Vol. XIV. p. 193, 256, 402, 404, 406, 456. Vol. XV. p. 454. This valuable work abounds with cases.
Meier, in Hannov. Magazin. 4, p. 1625. 5, p. 295.
Mercure de France, 1759, p. 143, 145, 154, 175, 175, 188. 1760, p. 165, II. p. 170.
* Meza, Compend. Med. Pract. fasci. c. 1. c. 21, § 210.

variolous pustules on the body of the fœtus, capable of affording the genuine matter, and of communicating the disease to others by inoculation, while its mother has been unaffected,

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* Monro's Observations on the Different Kinds of Small-Pox, &c. Edinburgh, 1818. p. 77.
* Moore's History of Small-Pox, p. 279.
* ——— Reply to the Anti-Vaccinists, p. *55.*
* Morton, De Febribus, p. 509. Hist. 65.
* Mosca, Dissertat. 2. Sul aria, p. 106.
Muller, in Baldinger N. Magazine, V. B. p. 107.
Mumssen, in Act. Reg. Soc. Med. Hafn. Vol. III. n. 3.
* Nicholai Patholog. 2 B. p. 285.
Nouvelliste œconomique et literaire, 1760. p. 131, 1761. p. *33.*
Olivier, in Journal de Medicine, T. XI. p. 417.
Oswald, in Hufeland Journal der pract. Heilk. 14 B. 2 St p. 191.
Pallas, Bemerkungen auf einer Reise in die sudlichen Statthalterschaften des russischen Reichs, 1 B. p. *153.*
Paullini, Cent. 3. Obs. 27.
Penada, Osservazioni, etc. v. Weigel, Italien. Bibliotheck, 4 B. 1 St. p. 141, 142.
Pettit, Lettre sur quelques faits relatifs a la pratique de l'inoculation. Paris, 1767-8.
Quartalschrift fur altere Literatur und neue Lecture, *3* St. n. 6. p, *63.*
* Ramsay, in Monro's Observations on Small-Pox, p. 150.
* Ring's Answer to Mosely, in various places.
* ——— to Goldson, p. 15—41.
* ——— Treatise on Cow-Pock, *58,* 260, 681, 684, &c. &c. &c.
* ——— In London Med. Repository, Vol. III. p. 204.
* ——— Medical and Surgical Journal, Vols. XII. XIV. XV. in various places. Between sixty and seventy cases have been collected by this gentleman, the whole of whose works I have not been able to consult.
* Reports of the Board of the National Vaccine Establishment to Parliament. Various years since its institution, and particularly for July 1811.
* Repository, London Medical, Vol. III. p. 37, 204.
De la Roberdiere, Lettre sur deux petites veroles avec recidives. Vienn. 1780. 8.
* Rosen, Maladies des Enfans, p. 250.
Rousille Chamseru in Recueil periodique, &c. T. XII. p. *165.*
* Rowley the anti-vaccinist himself gives the case of Miss Lutwidge, in some of his works, which I cannot now lay my hand on. He thought the first disease had been cow-pock!!
Samml. medicinischer Wahrnehmungen, 8. B. p. 17.
N. Samml. medic Wahrnehm. 1 B. p. 129, 148, 176.
Van de Sande in Verhandelingen de Socleteit in's Hage 2 Deel.
Sarcone in Epist ad Hallerum, V.
* Sarcon. Istor de mali osservati in Napoli, p. 1. pag. 58.
* Sayers, in Correspondence of the Directors of the Cow-pock Institution Dublin, p 38.
* Simpson, in Correspondence of the Directors of the Cow-pock Institution Dublin, p. 38.
Stoll, Versuch einer medicinischen Beobachtungskunst, p. 178.

places the fact in a still stronger, and in an unquestionable point of view *

I cannot dismiss this most important subject without submitting to your readers the following queries, which naturally spring from a consideration of the cases above detailed.

1. Do variola and varicella, when they happen to be contempo ary diseases, modify each other?

2. When thus modified, are they capable of producing an anomalous disease, in the same way as a disease of that description was produced by Doctors Woodville and George Pearson, by vaccinating at the Small-pox Hospital in London?

3. If they do not modify each other, but remain distinct unmixed diseases, will one of them, variola for instance, attack one set of individuals in the same town, house, or family, while varicella attacks another set?

4. Does varicella ever occur epidemically without small-pox, and where are the records of such epidemics to be found?

5. Is there, in any of the cases above described, any peculiarity, either in the mode of attack, progress, or decline, which authorize us to call it a disease *sui generis?*

Lastly, Have the eruptive diseases, such as I have now described them, and as they have for some time past existed in the city of Edinburgh, any, and what connection, with the

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* Targioni, Avis. sopra la salut. uman, 1775, h. 17.
Thuessinck, in Museum der Heilkunde, 3 B. p. 189.
Tode, Medic Chir Bibl. 1 B 2 St. p 35.
Vieussens, Histoire des maladies internes, &c.
Vogel, N. Medic. Bibl. 6 B. p. 187.
* Vogel, Manual Prax. Med. Tom. III. Cap. 1.
* Wagstaffe's Letter, showing the Danger and Uncertainty of Inoculating the Small pox, 1722.
* Walsh, in Corresp. of the Directors of the Cow-pock Instit. Dublin, p. 45.
Weber, Observat. Med Fascic I p. 17.
Werner, Diss. causa cur homines semel tantum variolis veris et morbillis corripiantur Regiom. 1767.
Van der Weil, Cent 2 Obs. 42.
* Willan on Vaccine Inoculation, p. 65, 71.
Willich, in Baldinger N. Magazin. X. B. p. 126.
Withers, in Memoirs of the Med. Soc of London, Vol. IV. p. 186.
* Woodville, History of Inoculation, Vol. I. p. 217.
* ——— in Medical and Physical Journal, Vol. XIV. p. 195.

Some few of the cases from periodical Journals are referred to under two letters Those marked * are additions to Ploucquet's Catalogue, derived from Bursertus, from Dr Bateman's paper, from the admirable articles in the Edinburgh Review Vols. IX and XV. and from other sources.

* Vide Jenner in Med. Chir. Trans. Vol. I. p. 271, and also the works of Mead and Mauriceau.

reigning epidemic fever? To assist, in the answer to this query, I would remark, that an industrious observer, Dr Rogers, in his Essay on Epidemic Diseases, Dublin, 1734, informs us, that a small-pox, of the most crude and worst kind, was constantly contemporary with a fever which he describes as raging epidemically in Ireland, upwards of a century ago, at three different periods, with a regular interval of ten years between each, viz. in the years 1708, 1718, and 1728, all which years were distinguished by cold and moist summers, and warm and moist winters. The symptoms of this fever bore a very close resemblance to that now raging in most parts of Scotland; and he describes the accompanying small-pox as presenting several anomalies and variations from the disease as it usually appears.

I cannot close this long paper more appropriately, than by employing the words of the National Vaccine Establishment in their report for July 1811. "It appears, from the present state of our information, that one person in three hundred dies from the inoculated small-pox, and that there is, perhaps, one failure in one thousand after vaccination. An individual who, under such circumstances, should prefer the inoculation of his children for the small-pox, to submitting them to vaccination, would be guilty of an improvidence similar to that of a parent who should choose for his son a military service, in which there was *one chance in three hundred of being killed*, in preference to a station where there was *only one chance in a thousand of being slightly wounded.*"

To this opinion, I beg to subjoin as a corollary, drawn from the whole of the evidence which I have now offered, as well as from that derived from the extensive experience of others in many parts of the globe, and from partial proofs in our own islands: THAT, BY AN UNIVERSAL ADOPTION OF, AND STEADY PERSEVERANCE IN, THE PRACTICE OF VACCINATION, THE RAVAGES OF SMALL-POX MAY BE EFFECTUALLY DIMINISHED, AND EVEN THE DISEASE ITSELF PERHAPS EXTERMINATED: AND THAT THIS EXTERMINATION, THE GREAT ULTIMATE OBJECT OF THE JENNERIAN PLAN, AFFECTS MUCH MORE NEARLY THAN HAS GENERALLY BEEN IMAGINED, EVEN THOSE WHO HAVE ALREADY UNDERGONE THE HORRORS OF SMALL-POX, OR WHO HAVE BEEN SUBJECTED TO ITS MILD BUT POWERFUL PREVENTIVE.

Believe me, my dear Sir, sincerely yours,

J. HENNEN.

Queensberry House,
August 24, 1818.

II.

Letter on the present Opinions in regard to the Antivariolous power of Vaccination, to Dr Duncan, jun. By James Bryce, President of the Royal College of Surgeons, Edinburgh.

Sir,—Sometime ago you did me the favour to insert in your Journal some observations on the inoculation of small-pox after cow-pox. Since that time, and especially of late, the small-pox has been very frequent in many districts of Scotland, and I believe generally over the United Kingdom; and the public mind has been much agitated by the occasional appearance of an eruptive disease resembling the small pox, and apparently produced by small pox infection, in many persons who had been formerly vaccinated. In no district of the United Kingdom have the small-pox, and reported failures of the cow-pox, been more prevalent, and created more anxiety and alarm, than in Edinburgh and its neighbourhood. Under these circumstances, it cannot be supposed that I have remained an idle spectator. I have had much correspondence with the medical practitioners of those districts where the small-pox, and reported failures of the cow-pox, have prevailed. I have witnessed many cases of this eruption, resembling the small-pox, after vaccination,—have examined carefully into their history and progress,—and, in doubtful cases, I have satisfied my mind by such experiments, consistent with safety, as appeared most likely to clear away all doubts on the subject. I have also witnessed many very satisfactory cases and experiments occurring to, and conducted by other medical practitioners; and, as the result of all my observations, I have been led to make the following conclusions respecting the cow-pox and the small-pox. In these conclusions, I firmly believe, and, if agreeable to you, I shall thank you to insert them in your excellent and widely-circulating Journal.

I believe, that, in a very great majority of cases, the process of vaccination, when properly conducted, is a certain preventive of the small-pox:

That there is no evidence to conclude, that the virus of cow-pox is deteriorated by passing through, or being regenerated on, a variety of human constitutions, provided it be taken from a regular vesicle at the period when most active:

That there is no evidence to conclude, that the protecting influence, imparted to the human constitution by perfect vaccination, diminishes by time, and ultimately leaves the constitution as susceptible of small-pox as before vaccination was performed:

That in some very rare instances, in which persons are said to have died from an attack of small-pox after cow-pox, this occurrence may be fairly attributed to some error in conducting the previous vaccination:

That from some peculiarity of constitution, however, which we cannot explain, certain persons, who may have undergone vaccination in the most perfect manner, are still liable, on a free exposure to small-pox infection, to suffer considerable constitutional disorder:

That the constitutional disorder thus excited, does not run the regular course of small-pox, but is rendered greatly milder by the preceding vaccination. Thus, the disease is attended with little or no fever after the eruption is completed,—the eruption itself is less numerous,—and few of the pimples, in proportion to their number, run to suppuration, but a great majority of them, never becoming larger than pins-heads, quickly dry into a horny or tubercular state,—and while hundreds are dying around, from the natural small-pox, none who have been vaccinated are seriously ill, or in danger, from this milder state of the disease; so that, should the present prevailing epidemic small-pox pass over without any person who has undergone the cow-pox being more severely affected with this constitutional eruptive disease than we have hitherto seen, we must consider the history of this epidemic, as the history of the triumph of vaccination.

I believe also, that it may be regarded as a general rule, that those persons who have suffered an attack of small-pox, may be considered safe against a future attack of that disease:

That from some peculiarity of constitution, however, which we cannot explain, certain persons who have suffered an attack of small-pox, are liable again, on exposure to its infection, to suffer considerable constitutional disorder:

That the constitutional disorder thus excited, is generally more slight than a first attack of small pox: But that we have on record more instances of persons suffering severely, nay fatally, from what was considered to be a second attack of small-pox, than from small-pox, after what has been considered perfect vaccination.

Farther, it is my opinion, that the slighter attacks of small-pox after small pox have been long known in this country under the name of the horn-pock; and that the eruptive disorder, occasionally occurring on exposure to small pox infection after vaccination, is the same disease, and ought also to be named the horn pock:

That the same general rule ought to be applied to the small-

pox and to the cow-pox, with regard to their powers of protecting the constitutions of those who have undergone their influence, against a future attack of small-pox; and finally,

That the other advantages arising to society, from propagating the cow pox in place of the small-pox, are so many, and so conspicuous, as to admit of no hesitation in concluding, that the former ought, on every occasion, to be encouraged, and the latter repressed, with all our most active exertions.

Edinburgh, 1st September 1818.

III.

Cases of Poisoning by Oxymuriate of Mercury. By J. W. Valentine, Surgeon, Bolsover.

THE following cases of poison, with appearances on rough dissection, are humbly submitted to your attention. I say *rough* dissection; because the coroner and jury's anxiety *to get through the business*, as they termed it, being so very, very great, we could not prosecute our anatomical research with that exactness the importance of the subject justified. * The prejudice also of the public mind on the enormity of the crime, as well as the idea of the bodies being *cut up* for inspection, militated so much against us, that, had we not been supported by the arm of the law, I conceive it would have been impossible for us to have obtained an examination. Should then the underwritten be considered worthy of a place in your valuable "Journal," or anyways contribute to the elucidation of forensic medicine, the views of the reporter will be sufficiently obtained.

December 26th 1816.—At, or about seven o'clock this morning, Sarah Wild, aged 49 years, of sanguine melancholic tem-

* We cannot omit this opportunity of expressing our disapprobation of the conduct of Coroners who presume to interrupt the medical practitioner called upon to examine the cause of death under suspicious circumstances; and of informing practitioners in general, that as soon as the body is delivered to them for that purpose, they are to proceed deliberately with their examination until they be satisfied. Upon this subject we quote with great satisfaction the decisive opinion of the enlightened judge who now presides over the criminal court of this division of the empire. Dr Cleghorn of Glasgow having been examined in a trial for poison, "The Lord Justice Clerk, after highly complimenting the learned professor on his luminous evidence, *took occasion to impress strongly on all magistrates and public officers present, the absolute necessity of having the body of the deceased opened and examined by a medical man, in every case of suspicious death.*"—*Editors.*

perament, administered to *herself*, and *four children*, large doses of oxymuriate of mercury, *mixed in treacle!* I was called in great haste soon after eight o'clock, along with Mr Frith; but it was near *nine* o'clock before any antidote could be got into the stomach, owing to our being misinformed of the nature of the poison given. The children were two boys and two girls; the youngest child, a girl, about three years old; the next, a boy, four years old; the third, a boy, eleven years old; the fourth, a girl, about fourteen years old. The three youngest children were vomiting violently large quantities of viscid mucus. Complete dysphagia; excruciating pain at every *attempt* to swallow, whether saliva, or other fluid bodies. Notwithstanding the older girl was less affected, nor in so much pain as the others, yet she vomited very considerably.

Case I.—Sarah Wild the younger, began, three hours after the administration of the drug, to purge violently. Large quantities of bilious matter were thrown off the stomach, as well as by stool. Pulse small, and innumerable; thirst excessive. After writhing in torture until six o'clock in the evening, during which period no urine was secreted, she became suddenly calm, and expired at the end of twelve hours from the taking of the poison.

Case II.—William Wild, aged 11 years; vomits violently. Sometimes easy, at others violently racked with pain; seat of which is principally about the scrobiculus cordis, and umbilicus; dysphagia. At the end of twelve hours, coffee-ground-coloured vomiting, with coagulated blood, took place; also violent purging of coagulable lymph, clots of blood, and fine pellucid membrane. Extremely thirsty; head much affected with coma; pulse small, tremulous, and feeble. Very small portion of urine secreted. Sensible to the last moment. Pulsation imperceptible at the wrist twelve hours before death. Died at the end of twenty-four hours after administration of the drug, while attempting to use the vase.

Case III.—Sarah Wild, the mother; complains of extreme thirst; violent pain at the præcordia; pulse small, tremulous, and quick, great heat, and extreme soreness of the pharynx, with difficult deglutition. When swallowing any liquid, the *raw* sensation extremely acute. At this period she produced from her pocket a paper containing *corrosive sublimate!* being the residue of what she had administered to herself and children, and which she acknowledged to have mixed for them in treacle. Did not weigh this product, but suppose there might be about one scruple. The original weight was a quarter of an ounce avoirdupois. She likewise produced a packet contain-

ing boluses, in number four, which she confessed to have made up three weeks before, containing the above named poison, with treacle and flour; but which she had not attempted to give, preferring the drug mixed with *treacle alone*, and telling the children it was saltpetre for the worms. On examination of two of the packages, *corrosive sublimate* was clearly indicated in its regular crystallized state. These packages contained the same quantity of poisonous mineral, as above noted. The vomiting continued violent and incessant, parting with blood, and coffee-ground-coloured matter; had also violent, repeated, and very offensive discharges *per ano.* After the first eighteen hours, the pain removed, and became violently fixed at the umbilicus, continuing there eight hours; from thence to the back, (lumbar region,) which continued to her death. All pulsation left the wrist, and extreme arterial branches, in twelve hours after the poison had been taken. The heart itself had an undulating, tremulous motion. Brain evidently much affected; the pupils of the eyes scarcely stimulated by the greatest light. Tongue clean; no secretion of urine. Sensible to the *last* moment. After great suffering, she closed the dismal scene about two o'clock P. M. on the twenty-seventh, being thirty-one hours after taking the poison.

Case IV.—George Wild, aged 8 years; vomits largely and incessantly of viscid frothy mucus; extreme soreness of pharynx, with complete dysphagia. Very restless; pain violent at the scrobiculus cordis; pulse quick and feeble; no secretion of urine. In six hours, repeated calls to the vase took place, in which were voided large circular pieces of coagulable lymph, similar to shreds of boiled macaroni.

27th Dec.—Passed a *very bad night*, complaining of great pain at the umbilicus. Vomiting less urgent; extremities cold; calls frequently for cold water, which was given, with the alkaline solution, as frequently as possible. Tongue red and parched. Head much affected with coma; pupils insensible to light; pulse feeble, labouring in its diastole. Stools changed to a livid, fetid, and grumous appearance. Abdomen extremely sore on the *slightest* pressure. Voids a small quantity of water.

28th.—Head still more affected, in fact, complete stupor; pulse less perceptible. Vomiting frequent of a *bluish* mucus, similar to the blue pill in solution. Extremely restless. Stool of a dirty grumous nature, in which was enveloped a *lumbricus*. Calls to the vase not quite so urgent; appears to be sinking fast. Died about five o'clock in the morning of the 29th, about seventy hours after the administration of the poison.

Case V.—Martha Wild, aged about fourteen years; had

swallowed but a small portion of the poisonous mineral. Perceiving what the mother had given to her to be very unpleasant, she spat out the greatest part. Vomiting took place along with the others, but in a slighter degree. Complained of *immediate* pain at the scrobiculus cordis, after swallowing the remaining portion left in the mouth. No difficult deglutition; pulse small, quick, and irregular. No evacuation by bladder or rectum.

27th Dec.—Passed a restless night; pupils largely dilated, and insensible to light. Pulse not to be counted. Coma came on at noon to-day. In the morning, took with reluctance the solution of supercarbonate of potassa. Expressed a wish for a little boiled milk at the same time, which was granted. Enema of milk and olive oil thrown up the rectum, but returned without effect.

28th Dec.—Coma continued until noon to-day. No urine voided; pulse unsteady and feeble; pupils still blunt to the rays of light. A contraction of the corrugator supercilii, with partial strabismus. Eat more freely of milk and bread, which afforded pleasure. Injection again repeated, but without effect. To take freely of an oily emulsion.

29th Dec.—Passed a tranquil night, and voided a free quantity of urine, of good colour. Pulse a little fuller, and steady at 70. Has not experienced any abdominal pains since the commencement. No stool, but great inclination; and likewise to urine, but in vain. Had taken freely of the oily emulsion yesterday, and in the night. A terebinthinate injection was administered twice in twelve hours, which brought away some tolerably well-formed feces, of palish colour. Had a draught of decoct. cinchonæ, with tartarised kali.

31.—No complaints; appears convalescent.

1817, Jan. 3.—Perfectly well. Continues well up to the close of this communication.

Sectio Cadaverum.

George Wild (Case IV.) Seven hours after death:—Countenance placid; eyes open; no discoloration on the anterior surface, or any peculiar abdominal distention. Posteriorly; shoulders, back, and hips, a crimson colour.

Having sawn through the cranium, with great difficulty the calvarium was raised, owing to the very extensive and strong adhesions of the dura mater, which was obliged to be dissected from its attachments before the surface could be exposed. On exposure, every vessel of the dura and pia mater was completely filled with red blood, exhibiting the most beautiful structure of their ramifications, and anastomoses. One of the lateral and posterior sinuses were filled with *black* blood, forming a most rich

contrast with the highly injected arteries; the whole presenting one complete mass of high inflammation. The medullary portions of cerebrum and cerebellum, when cut through, oozed red blood. The plexus choroides greatly distended with blood. There was no fluid in any of the ventricles more than natural, or any other apparent derangement of the organ.

Thorax.—Lungs more *purple* than usual at the above age. Serous effusion in the cavity, to the amount of about twelve ounces. Also in the pericardium a collection of serum, amounting to two ounces. Heart firm, and of natural size.

Abdomen.—Peritonæum highly vascular; omentum nearly obliterated, but what remained was fully injected with bright red blood; so were the intestines. Gall-bladder greatly distended with bile. Liver of natural size, but its peritonæal covering fully injected with blood. The mesentery beautifully injected. Bladder corrugated to a very small size, and empty. Kidneys inflamed. The stomach was carefully removed; when opened, contained a pint of *bluish matter*, and presented the following dreadful lesion:—In the cardiac portion there was a *black circular patch*, about two and a half inches *diameter*, from which radiated, as from a centre, a uniform bright redness throughout the whole inner coat. The rugæ, which were *very large* and *numerous*, were more inflamed than the other portions. The texture was totally destroyed through all the coats, as far as the circular patch extended. On washing off the destroyed parts, only the peritonæal covering of that portion of the organ was left. It cannot be better compared than to a piece of leather *burnt with a red-hot coal.* The whole of the great arch partook of similar appearances externally.

Sarah Wild the younger. (Case I.) External appearances uniform; in colour, a deep crimson, approaching to purple. On opening the abdomen, omentum highly inflamed; intestines the same; mesentery rich in red blood; kidneys, not so highly inflamed as the brother; bladder closely contracted to the size of a marble; suffusion of bile on the concave surface of the liver, extensive; its bladder greatly distended with bile; stomach, when opened, of a deep scarlet tinge, from the cardiac to the pyloric extremity, with a *black circular patch* in the former portion, about the size of a *half crown.* When washed the edges were jagged, and nearly through all its coats. Not much distended, but containing a milk-like fluid.

William Wild. (Case II.) External appearance similar to sister Sarah; the eyes more shrunk within their orbits; colour as deep on the back.

On opening the abdomen, peritonæum presented great inflam-

mation. The omentum was nearly obliterated. The bowels highly inflamed, and partially livid. The liver, one-third in extent, nearly colourless. Gall-bladder greatly distended. Great effusion of serum into the abdominal cavity. Urinary bladder closely contracted to the pubes, the size of a walnut. The stomach greatly distended, and, when opened, poured out its contents of a black grumous nature. The cardiac portion was more extensively destroyed than the preceding two, by a *circular black patch*, in diameter *three inches*, from whence appeared to diverge an extensive, nay, universal inflammation of the whole inner coat, of a *deep scarlet hue*, bordering on *crimson*, especially the rugous eminences. Its large curvature exteriorly was yellow, livid, and very tender.

Case III.—Sarah Wild, the mother. The countenance of this subject after death was dreadfully contorted. The same discoloration on the back and sides, as noted in the above reports. Was very corpulent; peritonæum highly inflamed; mesentery the same. Great effusion into the abdominal cavity; gall-bladder very full and much enlarged; liver covered with *pale* and *livid* patches, the size of sixpences. Urinary bladder contracted to the size of a walnut. Uterus inflamed, but not larger than common in women who have borne several children. Stomach not much distended, but *very livid* along its great arch, with some portion of the little omentum *very firmly* attached. On opening this viscus, a large quantity of dark grumous fluid escaped. At the cardiac portion, a large *circular black patch*, three inches in diameter, presented itself, and which passed through the whole of its coats, the finger piercing its substance without resistance; the inner surface highly inflamed, its rugæ presenting a deep crimson hue, whilst the remainder retained that of a deep scarlet.

General treatment consisted in pouring into the stomach of each patient as frequently, and as much as could be got down, of a saturated solution of supercarbonate of potassa in water; sugar and water; albumen and water; milk, and the like; varying as our patients would take them. The alkaline solution appeared to excite disgust, but afforded evident relief when swallowed, by the instant calm immediately produced when it came in contact with the inner surface of the stomach.

Thus gentlemen, I have concisely, but faithfully, narrated this dreadful catastrophe. Our treatment clearly bespeaks our intention, viz. decomposition of the poison; but dissection has proved that all our attempts were abortive, owing, I presume, to the concentrated form in which it was administered.

Conceiving I have taken up much of your time already, I will merely observe, we were not more than four hours in being enabled to obtain the above information, and re-securing our subjects. I therefore commit these cases to the judgment of the medical and physiological world, imperfect as they are, with the view of succeeding in the result of my wishes.

Bolsover, December 10, 1817.

IV.

Case of Poisoning by Corrosive Sublimate. By HENRY ANDERSON, Surgeon, Belfast.

MONDAY, 9th March 1818, at 8 P. M. I was requested to visit Rose Mooney, who had swallowed poison. When I went to the house I found her in bed, her head supported, and the saliva flowing copiously from her mouth; the face swelled, much flushed, and covered with cold sweat; pulse 128, very feeble and irregular; skin intensely hot, and great difficulty of breathing.

I was informed she is 28 years of age, has had three children, and in consequence of a quarrel with some of her husband's friends, she had gone to an apothecary's, and purchased a drachm of corrosive sublimate, brought it home, and, in presence of the people in the house, swallowed it undiluted. This happened at seven o'clock.

I immediately ordered an emetic, and during the intermediate time questioned her where she felt the pain. She could not speak, but drew her hand down from the chin, and fixed on the epigastric region. The abdomen was tumefied, and very painful to the touch. She had vomited in twenty minutes after swallowing the poison, and now again on my entering the room. I ordered the matter vomited to be put past for future inspection. At ten minutes after eight, I gave her 20 grs. sulph. zinci, which operated very quickly; large draughts of warm water were then administered, and the vomiting continued for some time.

She was very unwilling to take the warm water. I inquired the reason. With difficulty she let me understand, she could not get it swallowed, as her throat was drawn together, and sometimes entirely stopt. Two ounces of starch was boiled in a

quart of water, and she got a tea-cup full every five minutes, but frequently refused to take it, when more than milk-warm. There was an evident spasmodic contraction of the œsophagus. She had occasional retchings and vomitings, which nearly approached to convulsions. Two drachms of the sub-carb. potass. were dissolved in a quart of water, and she took a tea-cup full of this solution and the starch alternately.

At nine o'clock she appeared more sensible, was able to speak, and answered my questions pretty correctly. She complained of an excruciating burning pain in the throat and stomach; when she attempted to take any thing more than milk-warm, it was insufferable Pulse now 120, not so irregular; warm fomentations were ordered to be applied to the abdomen, and to continue the starch and solution of the sub-carb. pot.—11 o'clock. Still suffering severe pain in her throat, and all over the abdomen, which is more swelled; vomited four times since I saw her. Ordered to continue the starch and warm fomentations, but to stop the solution of sub-carb. potass.

Tuesday morning, 8 o'clock. She appears more composed, but impressed with the idea that she is dying. I endeavoured to remove this impression, and her mind became more tranquil. She complained bitterly of the severe treatment of her friends. Pulse 112, very much corded, and intermitting occasionally. She slept none during the night, and vomited frequently; abdomen less swelled. The warm fomentations had given relief, but the burning pain still continues. She seems much exhausted; has had no stool these two days. Ordered her an injection, and to continue the starch for drink. Having gone at this stage, in company with two friends, to breakfast with Dr M'Donald, I mentioned the case to him. He desired me to try the white of eggs, stating that it would reduce the muriate of mercury to a submuriate. At 11 o'clock, I found her nearly as when I left her. The injection had given her some relief of the pain in her belly. I gave her the white of two eggs beat up with cinnamon water; and ordered the same quantity to be given every half hour, and to intermit the starch. At 2 o'clock she felt rather easier, had vomited only twice since morning; pulse 104, not so much corded; profuse ptyalism; has had three stools with tenesmus, since the time I had seen her. Ordered an emollient injection; to continue the white of eggs, and warm fomentations. At 5 P. M. found her very weak, but the pain of abdomen much relieved, and tenesmus gone. At 10 o'clock, she continues better, but animal spirits much depressed; vomiting not returned. Ordered to continue as before.

Wednesday, 10 o'clock, A. M. Says she had a good night's

sleep: burning pain of her throat and stomach much abated; two stools during the night; free from tenesmus; frequent startings during her sleep; pulse 100, soft and more natural; worst complaint now, excessive vertigo and weakness; inspirations deep and heavy. Ordered a little weak soup, and two table spoonfuls of the infus cinchon. three times a day. She had refused to take any more of the white of eggs since last night, but before that had taken thirty-two.

Thursday, found her sitting up in bed, and continuing to get better.

Friday, she was up and convalescent.

About ten days after this she called on me; said she had no complaint, except the giddiness of her head, and excessive weakness of her whole system, especially the joints, which with difficulty support the weight of her body; looks healthy and takes her food.

The first matter vomited was carefully examined, and by the tests was proved to contain a quantity of corrosive sublimate in solution.

I am strongly inclined to believe, that starch possesses the power of combining with part of the chlorine of the corrosive sublimate, in a similar way to the white of eggs. I have made a few experiments with this substance, and mean to try it still farther.

My principal object in detailing this case is, that, through the medium of your widely circulating Journal, it may attract the attention of some one who is zealous for the advancement of professional knowledge, and who may have opportunities of examining minutely the effects produced by combinations of different substances with corrosive poisons; impressed as I am with the idea, that there is much to be discovered where the field for research is so extensive.

Belfast, 27th April 1818.

V.

On the State of Wounded Lungs. By WILLIAM MACLURE, Surgeon.

"THE moment that the lungs are wounded, they fall down, and continue in this collapsed state until the wound heals, which it does

the course of a very few days: but from the moment in which the lungs are wounded, the use of the wounded lobe is lost, so that if the wound be in the right side of the lungs, the breathing is performed only by the left, only half the quantity of air is inspired, and the breathing is difficult: But this collapsed state of the lungs, which cannot be remedied, which must inevitably continue at least for a few days, while it is a cause of distress, is at the same time a chief means of safety." Vide Mr John Bell's Discourses on Wounds, Vol. II. p. 14.

Again, "If the lungs when wounded were to continue in perpetual motion, I do not know how we should expect a cure; for the air would be continually streaming through the wound, and the wound itself, alternately dilating and contracting like that in an artery, could not heal. But as the wounded lung lies in a collapsed state, the edges of the wound are in contact with each other: There is, as we find by dissection, a slight effusion of blood, a degree of livor, a swelling, thickening and inflammation, round the wound, and thus, in two days, the wound heals. It is healed partly by adhesion, partly by this thickening of the cellular substance round its edges; and thus the lung becomes once more entire, and its function is restored." p. 15.

And in page 18 Mr Bell thus sums up the whole: "In short, this collapsed state of the lungs is one of those happy accidents, inseparable from the constitution of the part, which so obviously facilitates the cure, that we attribute it to a regular and fixed design of nature."

Not doubting in the least, but wishing to prove to my own satisfaction, the truth of the foregoing statements, in the course of my dissections last winter, I made the following experiment.

I made an opening in the *aspera arteria* of a full grown male subject, large enough to admit the nozle of a pair of common bellows, and through it I inflated the lungs. The lungs expanded, the breast heaved, and I saw the diaphragm descend, pushing before it the liver and bowels, in a very beautiful and interesting manner; and upon the bellows being removed, the lungs, partly by their own elasticity, and partly by the elasticity of the contained air itself, resumed the state in which they were immediately before the experiment.

I then, with my scalpel, made a deep stab or cut in one of the lobes of the left lung, resembling the wound made by a bayonet or small sword, and again imitated the process of respiration. The result was, to my great surprise, that no collapse took place: there was no falling down of the wounded lung "to the back bone like a torn bladder;" but the left lung, as well as the right, expanded to its maximum, and the only appearance observed at all, corresponding to Mr Bell's statement, was a small dimple or uninflated part, immediately surrounding

the edges of the wound. But to vary the experiment, and to put the matter, in my mind, for ever at rest, I took a large slice from the other lobe of the left lung, thinking that, if under any circumstances the lung would remain collapsed, it would surely do so now. But in vain. The mangled lung continued as obstinately and as fully to expand as before, leaving me convinced, together with several students who by this time had collected around me, that, in matters of science, we ought to trust to no general reasoning, even of the highest authorities, without subjecting the whole of it, where that is possible, to the decisive test of well-conducted experiment.

It may, indeed, be objected to the foregoing experiment, that it was performed upon a dead body, and that Mr Bell's reasoning refers only to the phenomena exhibited by wounded lungs in the living subject; and, therefore, that the two cases are not parallel, indeed, in one respect, that they are directly opposite, and the result in the one wholly inapplicable to that in the other. But, for my part, I can perceive no such difference, as would alter, in any serious degree, the result of an experiment *of this* kind, between the state of living and that of dead lungs. *Even* when alive, the action of the lungs depends scarce in any degree upon themselves; and the little inherent power which they do possess, viz. their elasticity, depends not on the presence of the living principle, but exists in as great perfection after *death*, previous to putrefaction, as before it. The action of the lungs during life, depends almost wholly upon the power and motions of the diaphragm, the thoracic and abdominal muscles; but in the foregoing experiment, the force exerted by me in expelling the air from the bellows, and again in assisting the lungs to expel their contents, was to all intents and purposes a complete substitute for the actions of all these powers; and, therefore, I submit, if the lungs of a dead body are not as fairly the subject of experiment, at least of such an experiment as the one in question, as are the lungs of any living animal whatever.

If there is any weight or plausibility in the following reflection, it likewise manifestly leans in support of the hypothesis opposed to Mr Bell's; and with the statement of it I may conclude. If the lungs, upon being transfixed with the bayonet, or sword, or lance of an enemy, or perforated by a musket bullet, were by "a regular and fixed design of nature" to fall flat to the back bone, incapable of being moved by the process of respiration, what, I would ask, would become of all those men who have the misfortune to get their lungs on both sides of the chest wounded by one and the same accident? Would not every surgeon, upon seeing a soldier, through whose thorax

a ball or bayonet had forced its way, entering on one side, and making its exit by the other, give the poor man up for lost, and resign him without hesitation to his honourable, it may be, but melancholy fate? Upon Mr Bell's principles he would certainly be justified in doing so. But what is the fact? No intelligent surgeon actually does this; and certain am I that Mr Bell would be the very last man to do it himself. He knows well that many, provided the heart and great blood vessels, the nerves, thoracic duct, and œsophagus, have escaped the dreadful thrust, recover from such dangerous wounds; and therefore he would always be as assiduous, and unwearied in his curative attentions to such a wound, as to any other of the chest. A wounded lung, I admit, may be greatly obstructed in its movements by blood or air, or both, escaping from the wound into the cavity of the thorax, but the simple experiment which I have just now detailed distinctly proves, I think, that it never falls into a collapsed state, and remains completely motionless, merely because a great number of its air-cells have been forcibly ruptured by a sharp instrument penetrating into its substance.

Old Kilpatrick, 21st March 1818.

VI.

Case of Anasarca after Scarlatina, cured by the application of Leeches.—Communicated to Dr Duncan jun. By John Gairdner, M. D. Fellow of the Royal College of Surgeons, Edinburgh.

Sir,—As a person who recommends a new or unusual practice to the notice of the profession, is liable to be suspected of a bias in its favour, and as every prudent man will on this account receive it with a salutary degree of distrust, however plausible it may seem, and however eminent the person may be, under whose auspices it is brought forward; it seems to me to be the duty of those who may have adopted it in consequence of his recommendation, and who may have observed those effects to flow from it, which they were taught by him to expect, to state publicly the result of their observations, and thus at once to acknowledge their obligations to the individual, and contribute what they can to diffuse more extensively the benefits arising from his la-

bours. It is on this principle that I am prompted to communicate to you the following case, as illustrative of the practice recommended by my friend Dr Abercrombie, in a late number of your highly respectable Journal, for the cure of certain dropsical affections. As I do not wish to load your pages with unnecessary matter, I shall proceed to state the facts of the case, which I shall copy from my notes, without further preamble, and without comment:

Edinburgh, June 3d 1818.— About three weeks ago, the wife of a respectable tradesman, in Thistle Street, consulted me about one of her children, which had suddenly become affected with a swelling of the face, arms, legs, and abdomen. It was about four years and a half old. The face was so swelled, as partially to close the eye-lids. The swelling was evidently œdematous, but it did not pit so much on pressure as is common in cases of anasarca. As I had just given over attendance on another child of the same family, which had recovered from scarlatina, I was induced to inquire, if the dropsical affection had been preceded by any cutaneous eruption, and was informed, that a redness of the skin had appeared some days before, but unaccompanied with sickness or any other signs of indisposition, and that the child had been permitted to run about in the open air as usual, till the swelling came on.

I accordingly regarded this as a case of dropsical affection from scarlatina, and treated it at first with several very powerful doses of jalap and calomel. I then had recourse to digitalis, and afterwards to squill powders, but I cannot boast of my success with any of those remedies, although all of them received, in succession, what I regarded as a pretty fair trial. The digitalis brought down the pulse, which had previously been very frequent, (120 to 130,) to its natural level, but had no effect whatever on the swelling or on the urine. The purgatives produced only a slight, temporary diuresis, and exhausted the child's strength very much by their frequent repetition. The squill powder had no good effect, but produced a severe sickness at stomach, which forced me to desist from the use of it. I recommended afterwards, that the squill should be given in the form of syrup, (a drachm and a half four times a-day,) and conjoined it with a grain of calomel every night. This was about a week ago I perused, about the same time, Dr Abercrombie's excellent paper, and as the frequency and firmness of the pulse, together with a degree of heat of skin, which had attended the complaint from the commencement, and a troublesome cough which had just begun to be superadded to the other distresses of the poor little patient, seemed to warrant a trial of

the practice, I resolved, as the most cautious mode of proceeding with a remedy which was new to me, to abstract blood by means of leeches, four of which were applied to the child's foot. The cough was in some degree relieved after their application, and they were reapplied two other times in the course of the last week, with evident relief on both occasions. To-day and yesterday, a degree of diminution of the swelling of the abdomen has been observed, and the urine is improved, but the quickness of pulse, heat, and oppression, are still present to a considerable extent.

Dr Abercrombie, to whom I mentioned the case, was so good as to see the patient along with me, and, by his advice, I took from the arm between five and six ounces of very florid blood, which was evidently buffy. I also ordered the squill to be omitted.

4th.—The swelling of the face and abdomen is much less; the cough and heat of skin almost gone. The child has lost the oppressed look which it had, and is cheerful and playful. Calomel to be given every second night only.

6th.—Complaints all disappearing. Continue.

26th.—From the date of the last report, the child has been progressively recovering, and is now almost quite well, the abdomen being reduced very nearly, if not altogether, to its natural size, and the swellings of the other parts of the body being entirely gone.

Edinburgh, 26th June 1818.

VII.

Tænia cured by Ol. Terebinthinæ. By Robert Hartle, Surgeon to the Forces, Member of the Royal College of Surgeons, London.

Having, in the 43d number of this interesting publication, stated the case of a military officer having been cured of tænia by the ol. terebinthinæ, I considered myself bound to substantiate the certainty and speedy effects of this medicine, in the cure of this troublesome disease.

In no way could I more effectually ground my proof, than by employing the turpentine in every case that came under my

care or superintendency, varying the dose according to the age, strength, and habit of living of the patient. The latter, I certainly believe, requires most pointed observation, as will, I trust, be in a great measure elucidated by the two accompanying cases

I fear this disease is often overlooked in this climate, and the practitioner led into a belief that it is chronic dysentery. The patients are generally, at least those that I have seen, meagre and emaciated, with a voracious canine appetite, never satisfied with any quantity of food, and wearing all the appearance of having been starved. Griping pains of the belly, particularly in the mornings before breakfast, with one or two watery stools, a grumbling noise of wind in the intestines, succeeded by pain, pains in the stomach, and occasionally passing pieces of the worm. I would recommend to every medical gentleman to desire his patients to observe particularly their stools, by which means he will often find out the true disease, and be relieved from that anxiety which must naturally be excited in the mind of every medical man, when he finds that his remedies have failed to give relief.

I have succeeded in curing two patients with two ounces each of the oil undiluted, yet, as in the case of Cockshot, I would increase the dose was my patient, which is too often the case in this climate, an ardent spirit-drinker, and I should *not hesitate* to give as far as four ounces. I am fully persuaded that a large dose is less likely to affect the urinary organs, than a small one; a large dose acts immediately as a cathartic, and purges itself off before the absorbents have time to play on it. It will be seen in the case of Howell, the ol. terebinth. was *six hours* in the stomach, yet no inconvenience was experienced in the urinary organs.

Case I.—William Howell, æt. 36, a private soldier in the Royal West India Rangers, was admitted into hospital on the 23d September 1817, punished. On the night of the 28th September he was suddenly attacked with hæmoptysis. The usual remedies were immediately applied, and, although fast recovering from this disease, he appeared to daily decrease in strength. He became very emaciated, and complained of griping pains of his belly, particularly before breakfast, with some purging, and pain in his stomach. His emaciated state particularly attracted my notice on the morning of the 22d October, when his pulse was regular; skin natural; tongue clean; appetite voracious; and, to make use of his own words, "he was never full." I directed him to examine his stools, and see if he could discover any

worms. He immediately said he was in the habit of passing them very frequently. On the 23d October he shewed me three, which, although flat, were not ribbed like the tape-worm; each was about two inches long. Still, however, the appearance of them led me to believe that this was a case of tænia, and I resolved to try the terebinthina. I desired him to abstain as much as possible from food that day, and on no account take his supper. He complied, and on the morning of the 24th October, I gave him two ounces of the ol. terebinth. undiluted. I visited him very frequently during the morning, and finding at twelve o'clock (six hours after he had taken it) that he had had no stool, I ordered him two ounces of the ol. ricini. In half an hour after he had taken it he passed a narrow tape-worm, nine feet one inch long.

Notwithstanding the length of time between his taking the turpentine and that of having a stool, no ill effects were produced, and the only strange sensation he complained of was that of intoxication. On inquiry into the general character of this man, I find he is given to drink freely ardent spirits, which I think in a great measure accounts for the tardiness of the turpentine's effects. His appetite has since become natural, and his general health daily improving.

Detachment General Hospital,
Antigua, 24th December 1817.

Case II.—William Cockshot, æt. 28, private soldier in the Royal West India Rangers, admitted into hospital on the 21st September 1817, with slight ulcer. On the morning of the 25th October 1817, he complained of severe griping pains of his belly, with frequent inclination to stool, which generally continued until he had got his breakfast. His countenance was sallow and dejected; appetite good; pulse regular; skin natural; pain in his stomach, and described as if a very weighty substance was in it. He also remarked that he had frequently passed worms very like those of Howell, but much broader, and ribbed. I considered this a well marked case of tænia, and requested to be informed candidly if he was much in the habit of drinking. He answered in the affirmative, remarking that he never diluted rum, if he could procure it in its genuine state. The latter circumstance appeared to me to indicate the propriety of increasing my dose of the ol. terebinth.; I therefore, on the morning following, (26th October,) at six o'clock, measured three ounces by a graduated glass, which he drank off immediately. I visited him every hour, and at ten o'clock, while questioning him as to his sensations, he was seized with

severe pain in his belly, and a desire to stool; he had scarcely sat on the pot when he passed the worm, eight feet long. About the centre it is nearly half an inch broad, tapering off very small at both ends This man never complained of any pain or inconvenience, but that of intoxication, which he thus described on the following morning, "I was more drunk yesterday than I was when I drank at one time a bottle of rum."

Letter from Assistant-Surgeon Joseph Aller, Royal West India Rangers, to Staff-Surgeon Hartle.

Dominica, 26th November 1817.

My Dear Sir,—To your valuable suggestions I am indebted for success in the following case of tænia, by the exhibition of a large dose of oleum terebinthinæ.

William Osmotherly, private soldier of the Royal West India Rangers, aged 23, robust habit, landed in perfect health with detachment of his regiment from Guadaloupe, in May 1816. Dysentery soon after became the prevailing disease among the troops. About the 1st of June he became affected with loss of appetite and general depression of spirits; occasional griping, and frequent purging stools, mostly mucus, sometimes mixed with blood. He was induced by remissions of disease to conceal his complaint until the 27th, when he was ordered to hospital, weak and much emaciated. The griping and purging were more continual; the tongue white; heat of skin natural; he said pieces of worm were frequently passing. An ounce and a half of the ol terebinth. were given immediately; he became slightly intoxicated, but experienced no disagreeable sensation. An hour after he was purged very often, and voided several yards of tape-worm dead. The purging continued about two hours. At night calomel gr vi. ext. opii gr. i. made into a pill was given; next day thirty grains of rhubarb. No more worm was passed; the griping ceased; the bowels became more regular; stools of a better appearance; but, to obviate any tendency to dysentery, calomel combined with opium was ordered, until the mouth was slightly affected. He improved daily, and when discharged, enjoyed health and spirits equal to his first arrival in this island.

I am, Dear Sir, with the greatest respect,
Your most obedient Servant,
Joseph Aller,
Assistant-Surgeon, Royal West India Rangers.

VIII.

On the Early History and Symptoms of Lues. By Robert Hamilton, M. D.

Dear Sir,—Some time ago, in endeavouring to acquire a knowledge of the history of Lues, I was led to a result differing in some particulars from the opinions which are generally received. In subjects involved in so much perplexity as venereal complaints, we do well occasionally to retrace our ground, and observe narrowly that nothing has been omitted through inadvertency, or by the weight of authority, which is inconsistent with historical records. What effect the following ideas, if correct, should have on the prevailing tenets, I am not prepared to determine. You will, perhaps, have the goodness to submit them to the judgment of your readers.

My object in the following pages will be to shew, that what is almost universally received as the true history of Lues * is not the accurate account;—that Astruc does not trace the history of what we call syphilis, but confounds it with another disease, viz. Sibbens;—and that Sibbens, and not Syphilis, was the disease which excited so much commotion throughout the medical world at the close of the fifteenth century, and spread such devastation and dismay over the habitable globe.

Before we can enter on this inquiry, it will be necessary to say a few words on the nature of Sibbens; and out of the vague and diffuse descriptions furnished by the numerous writers, to endeavour to fix upon such symptoms as form the characteristic and distinctive feature of the disease.

In Sibbens we have a cachetic state of the body very closely resembling that produced by the venereal poison. There is general bad health, pains and nodes, destruction of the palate and nose. But without dwelling on these and similar symptoms which are exhibited in this complaint, as in every other of the same class, we must try to detect one or two of its peculiar and distinguishing characters.

For the most part it is not communicated through the geni-

* By *Lues* I mean the *Lues Venerea* of John Hunter.

tals.* The poison is absorbed by the surface in general, and more particularly by those parts where the cuticle is thin. Thus those authors who have seen hundreds and thousands of cases, tell us, that it may arise merely from lying in the same bed, wearing the same garments, or using the same towel with the infected. Hill† says he would on no account wear the glove of a person labouring under the disease, nor would he allow the matter to touch any part of his body. The most common mode of inoculation, however, is by the lips and mouth, from suckling, kissing, using the same spoon, glass, pipe, &c. It is therefore to be regarded as contagious in the most accurate sense of the word.

This, then, may be stated as one characteristic symptom. All the authors, and they are many, who, within the last fifty years, have witnessed sibbens, agree in this statement. Syphilis may sometimes be produced without any affection of the organs of generation. This, however, occurs very rarely. Dr Paterson of Ayr,‡ on the other hand, writing on sibbens, in 1798, informs us, "that it seldom gets into a family without infecting every person in it."

It generally shews itself "at the corners of the mouth, in a small rising of a pearl or whey colour."§ Ulcers of the same sort frequently appear in the mouth. The throat becomes inflamed and ulcerates. The uvula has been lost in a few days. Generally it is much more chronic. Eruptions succeed, and the most marked is that from which the disease has derived its name,—a fungus like the sibben or wild rasp. This has a firm base; it is half raised above the surrounding skin. Its surface is irregular, like the fruit just mentioned; it is raw, and an ichor oozes from it. The eruption spreads rapidly over the whole body. The other cachetic symptoms follow, and the disease frequently proves fatal.

This eruption may be regarded as the other distinguishing feature of the disease. In common venereal cases, we see nothing of it. In all descriptions of sibbens it is much dwelt upon.

The name and nature of this eruption forcibly calls to recollection the existence of the disease Frambœsia, which, I need not

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* B. Bell on the Venereal, Vol. II. † Cases in Surgery.

‡ Contributions to Physical and Medical Knowledge, &c. by Dr Beddoes, p. 409.

§ Gilchrist, Edinburgh Medical Essays.

say, has also derived its different names from the eruption assuming the appearance of the rasp. But the diseases are so widely different in other respects, that it would be unpardonable to say any thing more on the subject in this place.

Fifty years ago, it committed great ravages in the south of Scotland. Hill had seen many hundreds of cases: and, from Dr Gilchrist's paper, it is very evident it was then raging like a plague. So great was the individual suffering, and the general mortality, that the more respectable individuals in the neighbourhood bestirred themselves to oppose its rapid and frightful progress; and they seem to have been successful. After what I have said, it will not appear strange that it should spread rapidly and be easily overcome. What is more contagious than the itch? What is more disreputable than its existence? Dr Adams, when in this part of the world, could with considerable difficulty see only six cases. * Dr Collingwood of Wigton informs us that it is now altogether unknown in the south of Scotland. † B. Bell tells us that, by cleanliness, it had lately been eradicated from many parts of Scotland. He gives us an instance in which, by the exertion of a single individual, the clergyman, after the disease had existed almost for time immemorial in his parish, when there were three-fourths of the inhabitants labouring under it, and many, particularly women and children, had died of it, it was in a short period altogether expelled. In proceeding further back, we can trace it from the south to the north of Scotland. Hill, however, is not disposed to permit us to follow this course. He does not deny its previous existence in the north; but, with great appearance of truth, assigns it a different origin. He was told by the medical man who had himself seen it, that, fifty years before, that is, about a century from the present period, the English troops arriving in Dumfries brought the disease with them from the south side of the Tweed. He told him that his attention was soon excited by its contagious nature. He advised the commanding-officer to remove the soldiers. This was done; but sibbens had already taken root in the town, and was now spreading over the country.

The disease still exists in some force in the north of Scotland. They do not deny that it is an old acquaintance. They are, however, very unanimous in ascribing its introduction to the

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* On Morbid Poisons. † Thomas's Practice.

English soldiers who came among them under Oliver Cromwell, about the year 1650.

Now, though it is indisputable that popular opinions are not to be relied on, yet they are not always to be despised, especially where they regard matter of fact or experience, and assume the aspect of public notoriety. We have here two independent and yet concurrent traditions in support of the fact that this disease was introduced into Scotland by the English, on two several occasions, viz. at the middle and at the end of the seventeenth century. If we examine the works of the English physicians who wrote about these periods, we must find either a confirmation or refutation of these traditional rumours. It is not, however, an easy matter to obtain the works written about this period; and, when they are procured, the circumstance of their regarding every disease that resembled the venereal as syphilis, throws many difficulties in the way.

Turner wrote his "Syphilis" in 1717. I need not say he practised in London. He tells us, that it is beyond controversy that the infection is communicated by lying in bed with the diseased, without carnal familiarity, to little children, and tender people; and adds, "I have more reason to believe *this* than mere imagination."

Dr Gideon Harvey describes the disease as it existed in London in 1666. He was evidently a man of strong sense and observation. When there is a thorough pox, says he, "it is time for nurses, physicians, and all visitors, to stand off. Upon such occasions, a person may be infected by drinking out of the same vessel, as we have heard from many, by trying a warm pocky glove, by shifting of him, or making the bed when the sheets continue warm, and by kissing. Physicians, in this case, run great risk in feeling pulses." * And again, pox is communicated by "kissing, shaking of hands, trying of gloves, &c." †

Dr John Wynell of London wrote in 1659. He observed that the disease was not communicated by the air, and therefore contends, *a fortiori*, that it was not contagious! In the body of his work, however, he furnishes very abundant evidence of its being communicated in other ways than by the sexual embrace. At p 28 ‡ he says "the true manner in which this disease is contracted, is either by generation, lactation, or attrition of bodies." And again, "reason and experi-

* Great Venus Unmasked, p. 59. † Loc. cit. p. 48.

‡ On Lues Venerea.

ence both will discharge the genitals from being the subject of this disease; for then there were no such disease of the body but of necessity they must be offended and injured; but we often find men strongly taken of this disease, without ulcer, tumor, or any other sign of wrong, to the proper actions of those parts." (p. 15.)

Again, the second edition of Clowes' work, "Touching the Cure of Lues Venerea," was published in London in 1596. No one can read but a few pages of any of his treatises without observing the shrewdness of the author. He says, "I have myself known both men and women grievously infected with this sickness, which have had those parts which, being the most suspicion thereof, and are most speedily infected, free and clear from all kind of malady."

If there is any faith to be reposed in the testimony of some of the most respectable names that are to be met with in the early history of English surgery, we must admit that, at one time, in England, there prevailed a species of the disease called Lues, which spread without venereal intercourse.

I wish I could make it equally clear that, in all these cases, the sibben, the raspberry eruption, had been observed. This, however, is more difficult. This particular eruption, I shall afterwards satisfactorily show, was merely called pustular by the authors of a still earlier date. Now, all those I have already quoted no doubt state, that a pustular eruption was a very frequent symptom: but, from this circumstance, I do not conceive myself at all entitled to deduce that it was of this peculiar stamp. The disease breaking out about the lips and mouth is, however, I think, much more indicative of sibbens than of syphilis. Clowes mentions venereal pustules occurring at the angles of the mouth, and tells us "that part of his object in setting forth his booke was to helpe those good people that be infected by eating or drinking, or keeping company unawares with those diseased persons, &c."

Dr G. Harvey is more explicit. Besides noticing its frequently first attacking the lips, he says, "the skin often flourishes with red and yellow pimples, and forthwith, which is a great token, the forehead is disgraced with round hard pimples, like mulberries, a little crusty at top, some being dry, others moist, which are propagated to the ears, then to the neck, arms, shoulders, breast, but chiefly groin and perinæon." *

Here then, I think, we have evidently exhibited the occur-

* Great Venus Unmasked, p. 74.

rence of this disease in England during the sixteenth and seventeenth centuries. We have here a description which most accurately pourtrays sibbens;—notice of a disease which begun at the angles of the mouth—which was widely communicated by kissing, drinking out of the same vessels, &c.—which produced all the symptoms of the venereal without the genitals being primarily affected.

I am afraid of dwelling much longer on this part of the subject. I shall only hint, that it is still not unfrequently seen in various parts of the Continent of Europe. I understand it is sometimes seen in Ireland.* In the year 1800, a disease attracted attention in Dalmatia, affecting thousands with symptoms very like those of syphilis—spreading by contact, without venereal congress. Dr Cambieri considered it the same disease as the "sibbens of Scotland;" and Dr Frank, of Vienna, sanctioned the opinion.† The disease which in Norway is well known under the name of *radesyge*, and in Sweden under that of *saltfluss*, is by many regarded as the same with that which we are now considering.‡ I may remark, that I have seen no intelligible account of the occurrence of the disease, as mentioned by Swediaur.§

The Continental authors of the later centuries give us numerous descriptions of it. Boerhaave, writing in 1727, is particularly strong. He makes unequivocal declarations, both in the preface to the Aphrodisiasus and in his Aphorisms. Nicolas de Blegny, practising at Paris in 1683, is, if possible, still more satisfactory. Many others of the Continental authors might easily be quoted, did time allow. To these works, however, I can now only refer.

I hasten on, therefore, to state, that I would submit, not only that this disease sometimes manifested itself among the host of others with which it was classed in England, and on the Continent at the times that I have mentioned; but I should also feel disposed to maintain, that it was this disease which, at the siege of Naples, in 1494, excited so much attention—which thence spread with such frightful rapidity over every country of Europe, and extended itself to the very confines of the older world—rapidly overleaping every barrier to its progress, and

* Diss. Inaug. Johanne Macleod, Auctore, p. 75, A. D. 1805.

† Edin. Med. and Surgical Journal, Vol. III. p. 333.

‡ Ib. Vol. V. p. 420. Diss. Inaug. Johanne Macleod, Auctore, p. 81, A. D. 1805.

§ On the Venereal.

non-plusing alike the daring empiric and the regular practitioner: that it was this disease which was brought to Europe by Columbus—which emanated from Hispaniola. So far as I know, it is universally believed that Astruc's History is the history of what we now call Syphilis; and many of his observations, undoubtedly, have reference to this disease. I believe that this was the venereal disease, with which he was best acquainted. But, in tracing its history, does he not unwittingly glide off to another disease, and, in truth, describe the progress of sibbens? This I shall attempt to prove.

I shall begin at the fountain-head—with the descriptions which we have of the disease, as it originally appeared in Hispaniola; and I shall take many of the facts as furnished in Astruc's own work. I shall only observe, that, in this investigation, as in the preceding, I think it right to confine myself to those features which are most characteristic.

Astruc, with his usual accuracy, gives the statements of historians as well as of the medical men who observed the nature of the complaint in Hayti. The following will afford a specimen of the notices given by historians: "It is in a manner hereditary to the natives; they not only contract it from venery, but it likewise breaks out upon them spontaneously."* "All the natives are infected with the disease, than which there is none more *contagious*."† "An inveterate itch was imported from the islands with the venereal disease."‡ The expressions of the physicians are not less strong. "This disease is as familiar to them as the itch is to us, and is catched by infection in the same manner."§ "The disease, being infectious, soon spread to the soldiers who kept company with the natives. It was by them, the soldiers, ascribed to their hardship."‖ I need hardly ask to which of the two diseases these descriptions belong

Let us now follow the disease into Europe, and we shall find additional proof of the correctness of the opinion.

When the followers of Columbus returned with him from the West Indies, they went to Barcelona. What was the consequence? "Immediately the whole city was seized with the disease. It spread all over it. They imagined it owing to some peculiar state of the atmosphere."¶

From Spain it spread throughout Europe; and the manner

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* J. Baptist du Tertre, Astruc, p. 79.
† F. Lapez, in p. 79.
‡ F. Guicciardini, u. s.
§ J. Montanus, in p. 77.
‖ Diaz, p. 7. u. s.
¶ Diaz, u. s.

of its propagation is so notorious, that I feel myself called upon to apologize for particularly describing it. The general, and what I would call the true account, is, however, almost universally regarded as exaggerated and extravagant. If referred to syphilis, I confess that it is;—applied in the manner I would recommend, all will appear accurate and satisfactory.

The Aphrodisiacus of Luisinus, it is well known, was published in 1566. In this compilation we have preserved to us all the previous works of any value. We have no less than the works of sixty physicians, who all wrote within seventy years after the siege of Naples.

I cannot say that I have perused all these works. Many of them say little or nothing with regard to the symptoms or the modes of communication. I have, however, examined a very respectable proportion of them, more than one-third; and, after this, I can affirm that, without one exception, all these are most decided in their statements that, what they call the venereal disease, is propagated, in the widest sense of the word, by contagion;—not by coition, but by the common intercourse of society;—not as syphilis now is, but as sibbens has been described to be.

Now, to a general statement of this sort, I have no doubt a number of objections will immediately be made. It will be said that these men were but little qualified to give any opinion,—that they were astonished and confounded at the ravages of the disease,—that they were ashamed because they could not arrest its progress, and remove its symptoms,—that, upon the same authority it could be proved that the disease was produced by the influence of the planets—of Jupiter, and Mars, and Venus.

But let it be remembered that, at this period, some of the brightest ornaments of general science, inferior to none of the present day, were shining in their full splendour—that the physicians daily associated with these men, and reckoned some of them among their number; and more especially let it be remembered, that the point at issue is only a simple matter of fact—that mere integrity in the relation is all that is required. It need not be denied, that some of these writers, in the true Cartesian spirit, advanced from fact to theory, and conceived that the fact might, some how or other, be made more satisfactory and scientific by a reference to the motions of other worlds. Now, however wild such a theory may sound in ears chastened to the modern philosophy, yet, in so far as it bears on the matter of fact, it only goes to prove the simplicity and entireness of the credence which they gave to it.

Here is a disease which spread so rapidly, that it almost

seemed to be inhaled with the poisoned atmosphere. Of this fact they could as little doubt as of the change of the seasons; for both of which they had personal and reiterated experience. But *whence sprung* this contagion? Why, as the changes of the year are the effect of the motion of the stars, may not the diseases of the human frame be equally subject to their influence? The peculiar disposition of the heavenly bodies shortly before 1494 was held to give a satisfactory explanation of the singular peculiarities in the weather of that year; and why not admit this anomalous, unheard-of disease, to the benefit of the same easy solution?

The theory, it will probably be thought now-a-days, was as bad in the one case as in the other; but the facts on which the theories rested are alike incontestable. The theory may be a wild chimera,—the fact was simple and notorious, and could be established as satisfactorily by a set of honest peasants, as by a whole college of the most sapient astrologers.

I would only add farther, on this universal statement of the older authors, that it is made not without reflection and observation. They do not carelessly follow each other in a beaten track. They know that upon the subject there might be, and perhaps was, a variety of opinion; and, after stating the question roundly—Does or does not this disease ever arise without venereal intercourse? they unanimously answer, each upon his own independent observation and experience, That it does.

I cannot think of troubling the reader with a great number of the statements upon which these assertions rest. It will, however, be satisfactory to adduce some of them.

Cataneus wrote in 1505. He thus speaks: "Monstrosus morbus contagiosus quidem, nec sexui nec ætati regionive parcens. Quin per universum orbem morbus hic hisce temporibus irrepserit, principes nobiles ac plebeios pariter invadens." * G. Vella observes on that statement which maintains that all "primo inficerentur secundum obscæna membra—quod tamen est falsum, et contra experientiam, nam multi ægrotant tali morbo, qui nunquam ægrotarunt secundum obscænas partes." †

Massa's work appeared in 1532. After mentioning that some thought it was communicated only by coition, he says, "sed hoc est contra experimentum—cum multi laborent et laborarunt tali ægritudine qui nunquam in virili membro, aut in vulva quic-

* Aphrodis. p. 139. † Ibid. p. 207.

quam passi sunt, ut in multis vidi-quorum pudendum nihil patiebatur." *

In 1555, Fallopius thus delivers his opinion: "Multos vidi huc hac laborantes non infectos circa pudenda, nam per intromissam ori linguam, per oscula, per sudores, contactus et amplexus communicatur ægritudo ista. Incipit per pudenda concedo, sed incipit etiam per omnes partes per quos fit communicatio." †

In 1563, Batallus, after noticing that it occurred from coition, observes, that it also arises "lactis suctione, osculis, longo vel frequenti corporum affectorum contactu, vestium et poculorum communi usu, eandem partem statim inficiens, quam primum invadit;" and he immediately notices its taking place as a primary affection in the lips, gums, and fauces, &c. ‡

It would be no difficult matter to double and to treble the quotations here adduced. I must not, however, trespass too far; I shall, therefore, only add one more statement given by Tomitanus in 1566. The contagion is propagated, "participatione sudoris, salivæ, saniei," &c. Vestium communio, oscula, complexus, linguæ morsus, mammillarum suctio, vasorum comedendi ac combibendi communis usus are assigned among the number of its causes. §

These are general statements, and it would be no difficult matter to produce numberless minute details. Many of the authors I have already quoted, give for example such relations as this: They were called to a family, into which the disease had been introduced by a stranger,—say by a child. This child communicated it to the mother, who was perhaps suckling it. The mother transmitted it to her husband; he to his son, a boy of six years of age; he again to his brother of ten; they together to their sister, a girl of 12 or 14, and so on; and these all affected without the genitals participating. Many instances, I say, of this sort are given, and I am prevented from particularly detailing them, merely from a fear of too far extending the limits of my paper. These minute details, while they show the extent and mode of communication, also point out the nature and symptoms of the affection.

I am willing to allow, that true syphilis may sometimes propagate itself without venereal intercourse. But this is a rare occurrence, and happens so seldom, that, if the statements I have quoted and referred to are entitled to any kind of credit, they altogether

* Aphrod. p. 41.
† Aphrodisiacus, p. 769.
‡ Aphrod. p. 860.
§ Aphrod. p. 1045.

preclude the possibility of the disease under consideration being syphilis.

But again, it may be said, Granting that it is not syphilis, how is it satisfactorily proved, that it was not leprosy or itch? that there was a cachectic state of the constitution at all resembling that produced by syphilis? in short, that it was sibbens?

With regard to leprosy, I would remark, that it is now agreed among the respectable authors of the present day, that this disease was at no time mistaken for the venereal. *

Moreover, the very minute descriptions that are given by many of the authors, altogether preclude the supposition of its being mistaken for leprosy or itch, or any disease merely cutaneous. Many of the descriptions would do honour to the accuracy of our own time. They describe it as a disease, not merely affecting the skin, but the throat also;—the bones; the hair; the whole constitution. They clearly describe a disease, in which much of that derangement produced by venereal poison exhibits itself.

I would go one step farther: I would say, that besides describing a disease very closely resembling the venereal cachexia, many of them mention the peculiarly distinguishing symptom of sibbens, the raspberry tubercle.

It ought here to be remembered, that at the time we are speaking of, there was nothing like an accurate classification of cutaneous eruptions. In describing this peculiar symptom, I have already said, they merely called it a pustule; and no doubt they dwell much more fully on this kind of eruption than upon any other: than upon a scaly one, or upon ulcers or blotches.

It is only some of them that have defined what they mean by pustules. But these descriptions will, I am persuaded, be more than sufficient to establish the point. And first I may note, that Petronius, in mentioning pustules as a symptom, explicitly states that they resemble mulberries. He takes notice of the occurrence of no other sort; "deinde pustulæ mori fructus figurem imitantes," &c. † From this it might almost be argued, that he was unacquainted with any other pustule; at least it seems a fair inference, that this species occurred so much more frequently than any other, that he thought it alone deserving of minute description.

Fallopius, on the other hand, observes, that there are two

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* See Bateman, Adams, &c. † Aphrod. p. 1222.

pustules. His first class is the kind which we are now considering. He does not exactly say that they resemble a rasp or mulberry. I have no doubt, however, that his description is nearer the truth than if he did; "Duum generum autem sunt pustulæ, alterum est sine cortice crusta et squama, elevetur cutis aliquantisper forma aliquando longa aliquando rotunda. Color in medii est albus, circumquaque veluti porcinæ carnis salitæ color; hic non potest explicari non enim est ruber, non albus, non pallidus, sed secati per transversam pernam talis est color pustularum sine cortice, et tales apparent sub palato sede facie et capite." *

And thus Gallus: "Interdum planæ sunt minimeque extantes, sed scabriæ tamen superficie ac colore incondiscentes apparent." †

Fracastorius resembles one species he describes to a gland in size and appearance. ‡ Phrisius to a gland placed upon the skin, § and some others of them say, that they are not unlike acorns, with the rough part uppermost.

Many other descriptions and references might easily be given. These, however, will suffice. It is well known that the disease has been divided into periods. Gideon Harvey calls them climacterics, and says, that, according to the ancient writers, after the first 30 years, pustules were much less frequently seen. ||

Upon these authorities, then, I would submit, that that appearance which has ever been regarded as the most striking diagnostic mark of sibbens, was often seen at the beginning of the 15th century; that it was, perhaps, of all others, the symptom upon which the earliest writers on the venereal principally dwelt; that they regarded it as one of the symptoms of what they called lues; that this cachexia was at that time very widely and rapidly spread without venereal intercourse, merely from the simple contact of some contagious matter.

To this view of the subject, objections will no doubt be urged. While I feel disposed to maintain that this is the disease which, at the period already referred to, committed such unheard of ravages; I would willingly allow that venereal complaints were at the same time rife. I doubt not that some diseases of this sort are as old, not only as Celsus, by whom they are well described, but even as promiscuous intercourse between the sex-

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* Aphrod. p. 824.
† Aphrod. p. 464.
‡ Aphrod. p. 199.
§ Aphrod. p. 346.
|| Great Venus Unmasked, p. 94.

es. I have also little doubt, from some of the descriptions, that genuine syphilis was not unknown to the authors of the day. If the present view of the subject be the correct one, then the origin of this disease is a distinct question.

The nearly total disappearance of Sibbens may be urged as another objection against this view. It is now seldom seen. True, I am not aware that it is now known in Hispaniola. And I have already mentioned that it has for some time been nearly banished from Scotland. But this certainly is not much to be wondered at. It is only another instance of a fact which the history of numerous infections and contagious diseases has already established.

Before concluding, there is one observation which I shall take the liberty of making. It may be imagined by some, that I must have met with, and omitted many statements that were hostile to my views. Now, I wish it to be understood, that this is not the case. With one partial exception, I have met with nothing of the sort. This exception is Wiseman. He mentions, that the idea of its general contagious nature was a very common notion, but he is altogether sceptical of its truth. I have no doubt withheld many statements, but these were all upon the side of the question I have been arguing. I have aimed at supplying that kind of proof which would be demanded by a mind somewhat sceptical, without exhausting others with tiresome repetition. A cause possessing real intrinsic merit, needs but few external props to support it; fair and simple truth will ever meet with a ready reception, and a hearty welcome, however feebly it may be recommended.

With the effect which this view, if correct, ought to have on the present prevailing opinion, I am perhaps but little qualified to judge. Though it would controvert the leading statement of Astruc's history, yet it would restore to the first observers of the disease, to all the earlier authors, that confidence and esteem of which he has deprived them; it would enable us, in a manner liberal and philosophical, to believe the unanimous testimony of physicians and historians and poets; to understand such statements as that of Ulrich de Hutten, Fracastorius, and many others, that it appeared in France, and Italy, and Germany, and all over Scythia, in little more than a twelvemonth; of Leo, who mentions, that in his time, there was hardly a family in Africa that remained free from the infection; how it spread so rapidly into Persia, that even there it was called the French disease; how, in a few years, it run its rapid course round the world.

And while this worst of contagions, this direst of plagues, was

speeding its irresistible flight in every direction, there seems little reason to doubt, that others were slowly stealing their unheeded way, adding confusion to alarm. And when mankind at last found it necessary to resist the blind ravages of this ruthless foe; when the civil authority interposed the strong arm of power; when the diseased were hunted from society; when they were banished from the towns, and forced to subsist, or rather to wait for death in the woods and in caves; when by such modes as these, they had succeeded in expelling and exterminating the monster, all that remained was those venereal complaints which were known from time immemorial, and those which had sprung up and established themselves during this period of perplexity. * I see no reason for supposing, with some late authors, that sibbens may now be occasionally witnessed, and may sometimes be puzzling us.

London, May 6th 1818.

IX.

Practical Observations on the Compression of Cancerous Breasts. By John Butter, F. L. S. M. W. S. Member of the Medical and Chirurgical Society, and of the Royal College of Surgeons, London; Membre de la Société Medical d'Emulation de Paris, Surgeon to the South Devonshire Militia.

Dear Sir,—I have always been adverse to the publication of solitary and detached cases, unless they could be afterwards incorporated with others in such a way as to lead to some certain and useful line of practice. Should the communication which I now take the liberty of sending to you, on cancer, prove, in your opinion, worthy of a place in the next Edinburgh Medical and Surgical Journal, you will oblige me by allowing its insertion. I am, Dear Sir, Yours, &c.

The object of the present communication is to lay before the public the minutes of a case of cancerous breast, the cure of which I attempted to effect by means of compression; conduct-

* Are any of them of a more recent origin?

ed on the principles, and applied in the manner first suggested to the public by Mr Young, in an express essay on this subject.

Mrs K. æt. 52, of Crabtree, near to Plymouth, applied to me in February 1817, for a cancerous affection of her left mamma. There was considerable hardness around, but chiefly above the left nipple. The hardness was irregular, somewhat knotty and moveable. At one point the skin had become of a purplish or copperish hue, and firmly attached to the subjacent tumour. The tumour could be moved by the patient herself, but not by me. The nipple was as perfect on this as on the opposite side. Occasionally she felt stabs in the tumour, and stinging sensations in her left axilla, but constantly a sense of weight and aching more or less in degree. Her left arm was likewise œdematous, and her axillary glands slightly enlarged. There was much general disorder of her stomach, such as flatulence, frequent eructations of wind, constipated bowels, dejection of spirits, and a sallow desponding look, which denoted considerable indigestion, and much constitutional derangement. Previous to her application to me, she had felt an induration and enlargement of the left mamma for nearly 11 years, and had applied to other surgeons, as well as to some irregular practitioners.

Under this state of things, I prescribed such measures as appeared to me most likely to rectify the general disorder, and to tranquillize the local irritation. I advised her to foment the tumour with a decoction of herbs, and to take some pills, composed of equal quantities of pilul. hydrarg. and compound extract of colocynth, 5 grs. of each every night, to regulate her bowels; and twice a day some mixture containing an infusion of cascarilla, and a little tincture of cardamoms. Her bowels became better, and the tumour easier. I now advised her to submit to an operation for the removal of her breast, lest the local disease might make further progress and ulcerate; but as she opposed this proposition with much firmness, I advised her to see some other medical man. Accordingly Dr Magrath's opinion was solicited in conjunction with my own, and as neither of us could prevail upon her to submit to an operation, we agreed to try what would be the effect of pressure in dispersing the tumour.

I must allow to the Doctor the merit of having suggested a trial of compression; for although I had read of its strong recommendation by Mr Young in cancers of the breast, I never put any faith in its efficacy, from possessing certain theoretical notions, which I will subsequently state, regarding the specific actions and constitutional influence of cancer.

Pressure, therefore, was resorted to with that faith and confidence, which it is necessary for both patient and surgeon to have, in order to give any plan a fair trial. A piece of gold-beater's skin was laid over the tumour. On it successive layers of soft folded linen were applied, and over all a calico bandage, rolled on so firmly, as to confine the cancerous tumour in close contact with the ribs. Dr Magrath and myself both agreed, that pressure was so effectually made, as to answer completely the object and intention of the plan; and, indeed, it was so firm, that the woman could breathe only by her diaphragm.

The bandage and compresses remained on for four days, and on their removal, we both agreed that a manifest alteration for the better had taken place, as far as local appearances went. The tumour was softer, flatter, and smaller, and in short, as much dispersed by absorption as we could reasonably expect, but still her dyspeptic symptoms had increased, and a slight cough had come on. Pressure was reapplied, but with diminished force. In six days afterwards I again removed the bandages, &c. in the presence of Dr Magrath, Mr and Mr George Dunning, surgeons at Dock, who had, as I found, likewise tried this method of compression in a case of ulcerated cancer of the breast, which proved eventually fatal. Absorption had perceptibly gone on since the last exposure, and the tumour become more flat upon the ribs. Her cough had become worse, owing to the confinement of her intercostal muscles, as we supposed, and her visceral disorder had not amended.

She had began to spit a bluish dirty-coloured mucus, such as people frequently spit in London; her aspect was that of complete despondency.

In this consultation, however, it was deemed advisable to continue the process. In seven days afterwards, (April 27th,) I again inspected the breast, and thought that, as far as local appearances enabled me to form an opinion, the prospect was encouraging; but she assured me, in a piteous tone, that she felt "the complaint increase inwardly," if I may use her own expression.

After this period I did not see the breast for many months, for as I had made an engagement to pass the summer on the Continent, I resigned Mrs K. to the care of Mr G. Dunning, who constantly attended her during my absence, in the most liberal and obliging manner, until my return to Plymouth, about the end of last September; when I was informed that the pressure had been persisted in so long, that the faith of all was shaken, and the practice altogether abandoned.

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When I saw her in October last, the local disease of the breast had not materially increased, except that a small and foul ulcer, with callous edges, had long formed, without spreading considerably, but her health and strength was much reduced.

Mrs K. took to her bed in August, from fancying herself unable any longer to walk about, though there seemed to be no ostensible reason to account for this inability, independent of her mental depression. From lying in bed so constantly on her back, the nates sloughed, the sacrum, and os coccygis, became bare; the stools at length passed through the wound; small hæmorrhagies took place frequently from the hæmorrhoidal and external iliac vessels; her stomach rejected both medicine and sustenance, and she died on the 28th of December 1817.

I regretted exceedingly that a pressure of events about this period prevented my inspecting the body, as I have no doubt that many of the abdominal viscera were affected with cancerous disease. So much for the trial and non-success of pressure, in one instance of cancer of the breast; and, if I mistake not, there will be found a great similarity to exist between the symptoms of this, and the many unsuccessful cases recorded by Mr Young. Although I urged the operation of removal at first, I must now candidly allow, that I do not think that it would have been attended with success. The case, therefore, might have been equally unfavourable for any trial. One point seems to be confirmed by the history of this case, as well as by the more ample experience of Mr Young; viz. that if an enlarged mamma be cancerous, its dispersion by pressure increases the pre-existing disease of the constitution. And, indeed, it seems fair to infer, that the absorption and circulation of irritative virus, taken from a malignant part, must cause and increase general disorder. Whatsoever may be the malignancy of a local disease, I believe, nevertheless, that it may be always dispersed by pressure, if the situation will admit of its application. I allow credit to Mr Young for reminding surgeons of what pressure is capable of doing, and his remarks wanted not the high authority of the late Mr Whitbread to urge them into public notice; but the grand and important question consists in this, "How far are or are not local diseases of a cancerous malignancy dispersable by pressure, with safety to the constitution?" This is the point which must be determined by the experience of surgeons at large. Even in the hands of him who was anxious to raise his plans successfully into practice, has it invariably failed in diseases decidedly cancerous? It must be

that the local appearances have amended, but the general disorder has been proportionally augmented. All experiments would be empirical, if we did not inquire into the "rationale" and real nature of diseases. We ask then what is cancer? Is it merely a local malady, or one connected with a disordered state of system? Were it but a local disease, surgeons might hesitate whether it be better to remove or to disperse it; but since every one of experience knows that cancer implies, not only a local disease, characterized by certain symptoms, but that the system at large sympathises with that local disease, which it has produced. The mutual re-action of one upon the other, may sometimes create doubts in the minds of persons, who have not been clinically trained to observe the progress of diseases, whether the constitution produced the diseased part called cancer, or whether the latter had formed first, and then disturbed the constitution.

The peculiar state of constitution liable to produce cancer, is well described by M. le Baron Boyer, one of the most distinguished French surgeons of the present day. He says, "On observe que les sujets d'un constitution bilieuse, d'un caractere triste et melancholique, chez lesquels la sensibilité et l'irritabilité sont tres-developpes y sont plus exposés; ces circonstances sont-elles vraiment des predispositions au cancer, ou bien doivent-elles être considerées seulement comme propres à *favoriser* l'action d'une cause interieure capable de produire cette *maladie*, et qui ne s'est point encore manifestée sous sa forme propre." *

I need not enter into a disquisition, I think, to prove that the origin of cancer is in the constitution. Too much praise cannot be, in my opinion, bestowed upon Mr Abernethy, for calling the attention of surgeons in general to the dependence of local diseases on constitutional sources.†

Now then, if a constitutional disorder be of that nature to produce cancer in one individual part, such as the breast, the uterus, and the like, does it not follow that all irritative measures locally applied must tend to the augmentation of that disease; and if, as in a cancerous breast, pressure be applied with a view of dispersing the disease, that, if it does so, the same must re-act upon a disordered state of system?

In theory I can take no other view of such a case, but that we are taught to look to practice; and what does experience

* Traité des Maladies Chirurgicales. Tom. II. p. 292.

† Vide Practical Observations on Surgery, by John Abernethy, F. R. S. Professor to the College, &c. &c.

confirm? Unhappily for Mr Young's doctrines, his very cases militate against themselves; and if I am correctly informed, the trials made by other surgeons, also confirm the danger and insecurity of attempting to disperse a cancerous tumour by pressure. Cancers are frequently the result of blows received on the breast. The blow proves the exciting cause for calling the latent disease into action. This state constitutes the difference between "disposition and action" of Mr Hunter. However, when the disease affects a glandular part without having been provoked by any known external excitement, both English and foreign pathologists admit of its pre-existence in the constitution. I ask then, can any applications, like pressure, made upon a particular part, cure a general or constitutional disease, the local manifestation of which has been only the index of radical mischief? The chimney sweeper's cancer is of course an exception to the general law; this being purely a local disease, and one *sui generis*. Whilst I desire to oppose the further use of pressure in cancerous tumours, I am willing to allow that it may be beneficially employed in indurated tumours, or such as have nothing of a cancerous malignancy in their nature. Of these there are a great number, and many which cannot be classed under any general head. I cannot but fancy that many of those cases, wherein pressure has been said to do good, were of the nature of simple scirrhus, which implies nothing more than a common enlargement of parts, accompanied with hardness.

Girls who are about the age of puberty, before menstruation is effectually established, have frequently glandular enlargements about their breasts and necks; but these generally disappear when the changes of the system become periodically regular, and the health good. Women arrived at a period for the cessation of the menstrual discharge, complain frequently of pains in their breasts, attended with enlargement. The due regulation of this evacuation intimately concerns the health of females. All that I mean to establish from these remarks is, that there are local diseases of an anomalous nature, likely to be confounded with genuine cancer; and that if pressure be applied to such, and a corresponding attention paid to their constitutional causes, they may get well. But then this is not curing cancer when seated in the female breast; nor can the disease ever be cured by pressure, if our notions of it are correct.

It is somewhat remarkable, that, in all the improving revolutions of time, science has not advanced more securely; for what one age does, another very often annihilates. Observa-

tions correctly drawn do, however, last. Little more seems now to be known upon this subject, after all that has been written or done, than is recorded by Hippocrates, who was of opinion that cancers should not be meddled with in any state. "Quibus occulti cancri, eos non medicare melius est: medicati enim citius pereunt: et non medicati diutius vivunt ægri." Sect. 6. Aph. 38.

This aphorism is very conformable to more recent observations; if Hippocrates means ulcerated cancers, whereof their origin was occult. In speaking practically, I may also add, that I have known many women, with ulcerated cancers of the breasts, walk about for years, appearing to suffer no more than slight inconvenience. Had such been treated with the view to a cure, the dissolution of the patient would, in all probability, have been expedited. Since nothing certain has been established about the cure of cancerous ulcers, I abstain from any discussion of them, by remarking, in a general way, that they have always appeared to me incurable. Celsus also expressed the same opinion; for his words are, "quidam ferro adusserunt; quidam scalpello exciderunt; neque ulli unquam medicina profecit. Sed adusta protinus concitata sunt, et increverunt donec occiderent. Excisa etiam post inductam cicatricem, tamen reverterunt, et causam mortis attulerunt." Lib. 5, cap. 28. What Hippocrates and Celsus thought, seems to be now very frequently observed.

Modern surgery reveals the safety and expediency of removing cancers not ulcerated. When nature has made her efforts to deposit in glands that which injures the health, the removal of such a disease seems to accord with her views. Of course the object will be, previous to an operation, to invigorate the constitution, and to tranquillize the local disturbance in every possible way, or, in other words, to await the fairest prospect of appearances. When the actions of a local tumour are known to be decidedly cancerous, the sooner that tumour is removed the better.

In establishing a comparison between the modes of excision and dispersion, I argue, that the former removes at once an irritating body, whereas the other drives it back into the system, there to diffuse itself, and to re-act upon the sources which generated its existence. I do not deprecate the practice of Mr Young, further than I think it calculated to produce an unjustifiable delay of an operation; for I contend that all tumours, within the reach of the knife, should be removed, regarded either as bodies of inconvenience or danger, unless there is a fair prospect of dispersing them by rectifying general disorder. A belief in the doctrines of pressure may so far dispose credu-

lous surgeons, as to procrastinate till every hope of success from an operation must be abandoned; much mischief may therefore accrue from such a belief. Mr Abernethy has shewn, (see Classification of Tumours,) that simply organized bodies, as wens, do not bear tampering with, much more cancer, whose unmanageable and often rapid progress baffles at times the best directed surgical skill. If a disease like this in question is once within the reach of the surgeon, he would be to blame, in my opinion, to allow of its getting beyond it. As some of the arguments which I have advanced against the application of pressure in cancerous tumours, may seem to apply with equal weight against the safety of extirpation, I shall proceed to relate one out of many cases, on whom I have performed the operation, because the particulars of it coincide, more nearly than any of the others, with those of the case which I have already detailed.

Nancy Taylor, aged 53, applied to me on the 5th April 1813, at which time the South Devon Militia was stationed at Huddersfield in Yorkshire, where I was then in the habit of administering my professional advice gratuitously, to all such as had occasion to ask it. From her I received the following account:—About five years previous to this period, (5th April,) she felt a slight, but stinging sensation in her right nipple; it gradually increased, and extended itself throughout the substance of the mammary gland. The nipple began to wither, so that in about two years it had totally disappeared. Her pains were described as lancinating, occasionally very acute, like the pricking of needles or the piercing of swords; accompanied by a sense of burning heat throughout the whole breast.

The tumour felt nodulated and uneven on its surface, but moveable. Her countenance was sallow, and her body weak and impoverished.

I proposed an immediate operation, and performed it two days afterwards, aided by my kind friend Dr Bradley, an experienced and intelligent physician at Huddersfield. I drew an imaginary line across the centre of the tumour, from one extremity to the other, and then commenced two semicircular incisions of the skin around the edges of it.

By repeated strokes of the scalpel I quickly swept off the whole of the tumour from the fibres of the pectoral muscle, and had the satisfaction to find that not a bit was left behind. The edges of the skin were afterwards kept in contact by adhesive plaster, and the wound in a week was nearly closed by the first intention; but she immediately went out, caught cold, and by producing erysipelas in the wound, protracted the cure to the eighteenth day, when she was discharged quite well.

The latest accounts which I have received from that quarter inform me of the continuance of this woman's health, without any sign of return of her cancerous disease. I might add, that her health seemed to improve much after the removal of her breast. The tumour itself was very hard and compact in structure, and weighed from seven to eight ounces. This patient had never been married nor born children; whereas the individual of the case first visited had been the mother of four children. Successful as have been many others of my operations on cancerous patients, I cannot deny that I have known the disease recur some years after an operation. The constitutional causes, which had previously engendered, seemed once more to renew the disease. Even after an operation for the removal of a cancerous mamma, much attention ought to be paid to preserve the health in a good state; and whatsoever deranges it considerably may reproduce a local ailment. So much is this an object of importance, that I have seen a cancerous tumour of active virulence, kept for a long time in check by soothing measures, administered through the medium of the constitution.

N B. Dr Lambe, in his work on Spring Water, has shewn how very calm the activity of local diseases may be brought by abstaining from a stimulating diet. I am willing, however, to decline any additional discussion at present, since I can refer Mr Young and all his readers to that original and very admirable work of Mr Abernethy, whose remarks carry with them the fullest conviction. *

With the relation of these two cases I close this memoir; having established, as I conceive, that a tumour unequivocally cancerous may be extirpated with perfect safety, and that the same tumour may be so far irritated by pressure and local applications, as to make it pass beyond the reach of surgical assistance. With cancer it is always dangerous to tamper, and unsafe to procrastinate. The disease being proved to exist, should be rooted out with all possible celerity, and care taken not to leave behind any part which could excite a continuance or renewal of morbid actions. Freedom, therefore, in the use of the knife is very recommendable. After all, it must rest with my readers to determine, whether the timely interposition of an operation be preferable to a reliance on pressure, and which of the two is most safe, expeditious, and best method of eradicating that

* Vide Abernethy's Surgery, &c. &c.

dreadful and poignant malady, cancer,—when seated in the female breast.

Plymouth, 24th July 1818.

X.

Observations on the Treatment of Ophthalmia. By THOMAS CARTAN, M. D. Member of the Royal College of Surgeons of London.

MANY of the observations contained in the following pages, were communicated to the Medical Board in the autumn of 1816, in my half-yearly report. They were then elicited by some bad cases of ophthalmia, the treatment of which devolved on me, long after the commencement of the disease As the British army must, I fear, be ever liable to ophthalmia, more particularly in our vast ultramarine possessions, and in other countries to which it may be sent on actual service, and as this disease, under various forms, has frequently shewn itself at home among the people, as well as among the troops, I conceive any plan of treatment most likely to arrest its progress, and which is applicable to the disease in all its varieties, will be useful to the army and the community, and may serve as a guide to the young student, to direct him in his future practice. Such a plan, I trust, will be found laid down in the following observations, as briefly as possible. If I should hear of its success, I shall be happy in the reflection of having in any degree contributed to the establishment of an uniform and successful practice in the treatment of the several species of a disease hitherto found most embarrassing, and on which medical writers and practitioners have entertained various and conflicting opinions.

Authors of every country who have written on ophthalmia, have divided it, like other inflammations, into acute and chronic, and have assumed, that the disease becomes chronic after having existed a certain time. I am most ready to admit the propriety of this division, and the assumption of this fact in inflammation generally, and also in that of the eyes; but in the latter disease, I must think, if we make either the one or the other arbitrary, it will lead to conclusions very mischievous in practice. In chronic inflammation of the eyes, we frequently find the conjunctiva relaxed, and nebulæ or ulcers on the cornea;

under these circumstances, those who think that the division of this disease into acute and chronic should be absolute, absolutely divide their practice also, and conceive, that any part of the treatment of acute ophthalmia would be ruinous in the chronic stage of the disease. Thus we see them apply various sorts of ointment, and different kinds of collyrium to the eye itself, for the purpose of healing the ulcers, promoting the absorption of the nebulæ, and giving tone to the conjunctiva, conceiving, perhaps, that those effects of the original inflammation had become the cause of the present one, and were likely to perpetuate it if not removed. This, however, in my opinion, is not the case. I feel confident, that the inflammation, the original cause of the ulcers and nebulæ, holds that relation to them during its existence, and through all stages of chronic ophthalmia; and by removing it we obtain a cure, either perfect or imperfect, according to the nature and extent of the mischief already done. I have uniformly observed, that ulcers of the cornea have healed without the least trouble, on the removal of the inflammation, and specks on the cornea completely absorbed or diminished, according to their situation, and in the ratio of the disorganization previously suffered; and that the introduction of ointments, and collyria into the eye, with the intention of removing the effect, while the cause exists, has been productive of the worst consequences, and is, I conceive, very unphilosophical. In my judgment, any direct interference with an inflamed eye is improper in any stage of the disease, and even all external applications, the weight of which would be likely to give uneasiness, should be avoided. Any of the effects of ophthalmia, however, which have ceased in a great degree, to be influenced by the inflammation, and have become *per se* a cause of irritation superadded to it, should be removed. In cases of hypopium, for example, when the quantity of matter is considerable, causing painful distention of the eye, and ulceration of the cornea, I would let it out, and thereby relieve the patient from pain, which is sometimes insupportable, and give him the only chance left of preserving any degree of vision. If the cornea had burst, and the iris protruded, causing, as it generally does, considerable pain, I would touch it with caustic, and have done both with advantage; but, whoever attempts to remove those effects of ophthalmia which preserve their original relations with the inflammation that caused them, will defeat his own object, and do serious injury. In my opinion, chronic ophthalmia in its very last stages has occasionally all the symptoms which characterize acute inflammation, and generally some symptom of it, and that the treatment should be the same in both, but modified according to circumstances.

The observations I have already made apply to ophthalmia in general, but in a particular manner to every violent species of this complaint, and there are many. Among those we may justly place that called purulent. This species of ophthalmia shews us in a marked manner the futility of the old doctrine of limiting the duration of acute inflammation to a certain number of days. I have seen this complaint continue for two and three months in the same individuals; then inflammation has rapidly increased, and matter formed in the eye to the destruction of vision! There are many varieties of this species, and all of them have the symptoms common to ophthalmia generally, in which we find, that the pain and inflammation are seldom in proportion to each other; but in this species, it is particularly remarkable, that though pain is sometimes excessive, and the functions much disturbed, it often happens, that the pain is moderate, and the functions little, or not at all disturbed, when the inflammation is great and dangerous. The other symptom which especially marks this species of ophthalmia is the secretion of purulent matter from its commencement. Pathology and observation teach us, that the matter afforded by all secreting membranes under inflammation, varies according to the virulence or mildness of the disease, and in no instance is this better exemplified than in the several varieties of this species of ophthalmia. I shall take a variety at each end of the chain, and by comparing them, we shall have the character of the entire species. In the most violent and dangerous variety, the matter secreted by the conjunctiva is thin, and whey-coloured; in the most mild, it resembles in colour and consistence that which surgeons call laudable pus; and the farther the disease is removed from this, and the nearer it approaches the other variety, the more dangerous will it be. A most distressing variety of this species of ophthalmia prevailed among our troops in Egypt, and caused great destruction, and after the return of the army to England, propagated itself for some time in an alarming manner. I shall not venture to mention particularly the probable occasional causes of this disease in those countries where ophthalmia appears as an epidemic more frequently than with us: I believe, however, that the solar rays, reflecting and sandy surfaces, and the sand blown into the eyes by winds, which occasionally prevail, are the principal causes of it in every country; and whenever our army may be called on to take the field in other climates less hostile to it than Egypt, we may have it in our power to avoid some of the exciting causes, by choosing good ground for our encampments. I conceive we should be as particular in rejecting sandy surfaces, and

their vicinity, as in avoiding the morass. I mention this, because I do think the disease, when excited, is precisely the same, in whatever country it may have originated, whether in India, or Egypt, in Spain, or in Britain, although many of its varieties may appear to want the character of being infectious; a circumstance never to be depended on, as a purulent ophthalmia, mild in its commencement, may, from circumstances, change its character, and become virulent, and the matter will then become acrid and infectious. In some varieties of this complaint, the matter is infectious from the commencement, and its power of propagating itself is a subject of painful reflection with those who have witnessed its progress in a regiment, and demands our most serious attention. Here one would suppose we have it completely in our power to arrest the extension of it by cutting off all communication between the diseased and the healthy, and guarding against every medium, by which the matter discharged from the eyes of the former could come in contact with those of the latter; for I am of opinion, that this disease can propagate itself in that manner only. In this, however, we shall often be disappointed, fresh cases, which had been predisposed, will occur in barrack in few hours, perhaps after a most minute inspection, and the disease will develope itself under a variety of circumstances most embarrassing to the medical officers, as I have had occasion to observe in the 2d battalion 40th regiment, when I was attached to it, in which, by its virulence, many unhappy men were rendered useless to themselves and their country! It requires the greatest precautions, and vigilance on the part of the surgeon, and the greatest attention on that of the hospital servants, to check this disease. The 40th succeeded one of the Cork militia regiments in the early part of 1809, in Clonmel barracks, in Ireland, where that corps had had ophthalmia. Some time afterward, the disease shewed itself among the men of the 40th, though every precaution appeared to have been taken by the staff-surgeon and the barrack-master, to prevent this calamity, so far as infection was supposed the cause of it, and it continued its destructive course in the regiment for eighteen months, although the most judicious arrangements were made and acted on all that time by Mr Woods the surgeon. By persevering, however, in those arrangements, the disease was eradicated, after an existence of two years! Here there may most properly be a question, whether the 40th was infected by occupying the barrack in which the Cork regiment had been, and one which I cannot take on myself to determine; but whatever might have been the exciting cause of the disease, there can be no doubt of its power

of propagation by its own matter; because, after remaining some months, the regiment was moved a distance of nearly forty miles from Clonmel to a healthy situation and good barrack, in which the disease had never been; but here fresh cases occurred, and the disease went on for some time as violently as before.

The best consideration I have been able to give this complaint, and the most attentive observation of its progress through all its stages, and under a variety of treatment during nine or twelve months, when the average number of bad cases exceeded forty, from day to day, and my subsequent observation of ophthalmia in various and violent forms in the peninsula, and more recently in England, have induced me to recommend the following practice to the attention of those who may not have had much experience in this disease.

During the first three days the lancet should be used most boldly, and blood-letting repeated as often as the symptoms appear in the *least* to demand it, and we should not allow ourselves to be diverted from this by deliquium, which sometimes occurs before six ounces of blood have been taken away. In this case, if we examine the eye an hour or two afterward, we shall find all the mischief going on; we should, therefore, bleed the patient immediately again, and perhaps in a horizontal posture. Nothing should interfere with the system of depletion at the commencement of this disease. The only criterion by which we can judge of the proper quantity of blood to be abstracted at each time is the disappearance of *every* symptom of inflammation. The bowels should be kept open, and the diet extremely low. After the first general bleeding, on the least appearance of the return of inflammation, and more particularly if the conjunctiva appears tumified and granulated, especially where it lines the eyelids, leeches should be applied to the palpebræ and surrounding parts, to the number of twelve, if both eyes be engaged in the disease, and when fallen off, the bleeding should be encouraged for several hours by warm fomentations properly conducted. In this way I have taken, I dare say, sixteen or twenty ounces of blood from those parts, which will certainly take down the swelling of the conjunctiva, and prevent entropion, that would otherwise be likely to occur, and keep up pain and inflammation, in despite of all our endeavours to remove it. At this stage of the disease, too, an inflammation sometimes seizes the integuments of the upper eyelids, and a serous effusion takes place into the cellular membrane underneath. In these circumstances, the palpebræ hang down, and overlap the under eyelids, the cilia of which irritate them, and increase the inflammation; the patient is unable to move, or raise the upper palpebræ; and thus they remain constituting

species of ptosis. Here, as in the former instance, the application of a proper number of leeches to the upper eyelids is eminently useful; indeed, one application, and diligently encouraging the bleeding afterward, will generally be found sufficient to remove this affection, and enable the patient to raise the palpebræ, and prevent their overlapping the under ones. By local bleeding we obtain another advantage, namely, that of rendering general blood-letting less frequently necessary. It may be right to mention, that the application of leeches to the integuments of the palpebræ, sometimes appears to excite a slight inflammation and swelling where none had existed before, and this might deter some practitioners from using them. This would be wrong, for I have invariably found the derivation from the eye greater when this occurred, and I have never seen it productive of mischief, or inconvenience. It is very different from that inflammation of the integuments of the eyelids produced by the disease, and coming *ab interno*. This, as I have already mentioned, is the harbinger of the worst consequences, and will be speedily removed by the judicious application of leeches. The application of blisters between the scapulæ, and to the back of the neck, may have a good effect. If after this treatment continued for the first few days, the inflammation should still exist, but without general disturbance, and without pain either in the eye or head, I would continue to apply the leeches occasionally, and after they had fallen off encourage the bleeding as directed before. I have always discontinued the warm fomentation when the bleeding ceased, and substituted a cold one, and kept this so constantly and attentively applied, as to produce rather a disagreeable sensation of cold in the eyes and neighbouring parts This will have a good effect, and will answer all the purposes of cleanliness when properly attended to. The cloths by means of which we conduct this, consisting of a fold or two of old linen, and sufficiently large to cover a portion of the forehead, temples, and cheek, and thereby preventing pressure on the eyes when we apply them, should be frequently washed and wrung, and the fluid we apply, whatever it may be, often changed. We should never inject even the mildest fluid into the eye for the purpose of washing away matter. The matter will do no harm. Much less should we inject or drop into the eye any kind of collyrium or wash, with the view of checking the secretion of it, or lessening its quantity; we shall obtain those advantages by removing the inflammation, and by no other means can we attain them. I have thus repeated the application of the leeches from time to time, as circumstances seemed to demand, till the inflammation was removed,

and in the latter stages of this disease I have been more particular in their application to the teguments of the palpebræ, if the swelled and granulated appearance of the conjunctiva had existed, and did not yield, as the increase of this affection would give rise to ectropium, the reverse of that likely to occur at the commencement of the disease.

Through all stages of this complaint I invariably smear the cilia and tarsi of the patient with ointment at bed-time. The ointment should be simple in the first stage of the disease, and always fresh, applied in the most gentle manner, and carried down to the roots of the hair, and ciliary edge of the tarsi. While we do this the patient's eyes should be closed, and kept so afterward to prevent the introduction of the ointment into the eye. In the latter stages of the disease, the simple ointment may be mixed with the unguentum hydrargyri nitratis, if necessary. By these means we prevent the accumulation of matter which is freely discharged during the night, by preventing the cilia from adhering to each other, and the patient can open his eyes next morning with facility, and without pain. We obtain another benefit from this; we prevent a disease of the Meibomeian glands, and ulceration of the tarsi, often the cause of the worst and most obstinate entropeon; and we obtain all this by gently applying the ointment at night, as directed before, and gently washing it off next morning with any mild tepid fluid, together with the matter discharged during the night. If this matter should excoriate the cheek, a little of the acetis plumbi dissolved in the cold fluid which we apply to the eyes during the day, and anointing the part with ceratum carbonatis zinci at night, will heal it, and preserve it afterward. It may be well to mention here, that I have found water in which ice is dissolving, or cold fountain water frequently supplied, as good an application as any under ordinary circumstances, and where excoriation did not exist.

It often happens, even in the most protracted stage of ophthalmia, that the inflammation changes its character, and becomes violently acute. Here again I would bleed generally and freely, regardless of the pulse, the more so, if there be pain in the head, for this is often certain evidence of the existence of ophthalmia interna. This would be my practice so often as the paroxysm occurred, and in any stage of the disease. When the patient has been a good deal reduced by the antiphlogistic regimen continued a considerable time, the bowels become torpid, and must be attended to. In this stage of the disease the skin also becomes torpid; it is usually dry and cold. Here I think blisters of much service, by taking off the determination to the eyes, and soliciting it to the

surface, thereby rendering the circulation more equable and steady, and we shall be assisted in this by the semicupium, occasionally and properly used at night before going to bed. In obstinate cases I have generally made an issue in the back part of the neck.

I have just now made use of the word paroxysm, and here beg not to be misunderstood. I do not apply it as indicating an accession which comes on at certain regular periods, or having any thing in common with remittent or intermittent disease; no such thing; and I may remark by the way, that I have never once seen cinchona, arsenic, or such like medicines, do any good, but I have often observed that they did mischief. I think, in this disease, the eye is a centre of fluxion, if I may be allowed the expression, to which the circulation is determined in a most obstinate and peculiar manner. When we reduce the system completely in the first instance, and keep it so during the continuance of the disease, however long, by a properly regulated diet,—I say, if we do this, and adopt a judicious local treatment, we shall go on, in ninety nine cases of a hundred, slowly perhaps, but progressively to a cure. On the other hand, if we allow the system to get up while the eye presents the least appearance of inflammation, or if our local treatment be harsh and injudicious, the patient will be in imminent danger of losing vision, and the surgeon will justly incur the risk of losing his reputation. On this latter practice I must observe, that I am of opinion, that almost all the relapses which occur are attributable partly to the neglect of employing proper means, and partly to the adoption of improper means in the local treatment of this disease, by which the inflammation of the eye is increased to a dangerous degree; and this irritation acting on the system will rouse the circulation to increased action, although it had been most languid. Thus the disease is aggravated; thus general blood-letting becomes necessary to save the eye at the expense of the system, already much debilitated. This is a dreadful alternative, and one which would destroy the most robust constitution, if it and the practice that leads to it be persevered in!

Having gone over so much of the treatment of this disease, I shall here assume, that, in consequence of a late report, or some other unfortunate circumstance, ectropium has taken place, and the inflamed and tumefied conjunctiva presents that fleshy and granulated appearance so common in this disease. What is to be done? We should touch the surface of the everted part gently and generally with lunar caustic, taking care that not a particle of it be allowed to remain on the part. By doing this occasionally, and applying two or three leeches to the integument of the palpebra, below the everted conjunctiva, which should be defended, and

above it, if the upper eyelid be everted, we shall diminish the eversion, and it will soon recede. We should never attempt its reduction by force, nor, if reduced, should we ever attempt to retain it *in situ*, by pressure made with compresses, or any other means; we should neither scarify, nor cut the part, nor attempt the excision of it, either by the scalpel, the scissors, or the ligature; we should merely do what I have stated above, and continue our cold applications as usual, which I have always found better than any other. Unctuous dressings do mischief. I am persuaded, that a practice contrary to that I have mentioned is unnecessary and bad. I am convinced of it from repeated observation. When the ectropium has been removed, we turn our attention exclusively to the removal of the inflammation, and the best means for effecting this have been already mentioned.

I shall further assume, that some of the sequelæ of this disease exists after the complete and entire removal of the inflammation, which, I venture to say, will not happen if it had been early reported, and that the local and general treatment had been judicious; and I shall take a speck on the cornea as an example to elucidate the practice I wish to lay down. Whether the nebula be superficially or deeply seated, or under whatever circumstances we find it, I have observed, that half-a-grain of calomel, given at night, or night and morning, and continued for some time, has occasionally produced the best effects. I would give this a fair trial; for it is wonderful how much nature will effect here, if properly and patiently assisted. At the end of some weeks, if we perceive no good derived from this medicine, we should examine the eye most minutely, and ascertain as far as possible the situation of the nebula and all its relations. If it be situated on the conjunctiva, or between that and the cornea proper; if it obstruct vision; and, if we see an artery, or a fasciculus of vessels coming from a distant part, conducted by the conjunctiva to the speck, and *manifestly* supporting it, we should raise up the conjunctiva with a delicate forceps, and snip off a small portion of this membrane, together with the fasciculus of vessels, and thereby destroy their continuity. This should ever be done at some distance from the cornea. By these means we shall be enabled to remove the nebula which obstructed vision, and thereby afford an inestimable and permanent advantage to our patient. Under those circumstances, the operation is justified, although the person often suffers a good deal by it; inflammation is excited by our operation; a pale fungus is sometimes thrown out by the sclerotica, a coat which, after long continued ophthalmia, we find highly vascular; it becomes necessary to touch this fungus with caustic, when

it rises above the surface of the conjunctiva; and this, together with the original wound, produces and keeps up inflammation, which will require all our attention. If the speck be deeply situated between the lamellæ of the cornea, it is out of our reach, and all local treatment will be useless. It must be left to time; and nature, in her various operations, may, perhaps, remove it. I shall here beg leave to protest against dividing the conjunctiva, unless called for by necessity, and that we have the fairest chance of obtaining by it a great and lasting benefit; because, if we fail in the attainment of our object, the inflammation excited by our operation will increase the speck which we wished to remove, and totally obstruct vision, which had been, perhaps, but partially obstructed before. I must also protest against the introduction of ointments, and collyria of every kind into the eye, whether consisting of metallic salts in solution, or vegetable productions. We should recollect, that the conjunctiva which covers the opaque cornea, is continued in a modified form over the lucid cornea, and that, when inflammation of that membrane is excited, the transparency of the latter must be affected. We see then that applications of this kind are inadmissible under any circumstance, as they would certainly cause inflammation, the effect of which must be dimness and opacity of the cornea. Independently of this, the nebula, for the removal of which they are intended, although deeply situated, will be increased, because *all* parts of the eye, more particularly the lucid cornea with which it is so intimately united, sympathize with the conjunctiva in disease, and the increased action of their vessels, and their vascularity, will be in exact proportion to the extent and duration of the inflammation of that membrane.

The other sequelæ of ophthalmia are numerous; and it unfortunately happens that we frequently have an opportunity of seeing them. We may also see many and various operations advised by different writers and practitioners for their removal; but any person who has attended to those operations must have perceived, that, though we obtain all that can be expected under such unfortunate circumstances by some of them, yet by many the unhappy patient only barters one evil for another, certainly often for a lesser, sometimes for a greater! Miserable exchange! When we reflect on this,—when we contemplate the delicate economy of the eye, the transparency of its humours and cornea, and the wonderful adaptation of all its parts to its function! when we consider that the least inflammation will derange this function, perhaps destroy it, and that the diseases of the eyes generally, and of its appendages, whether cataract, or entropeon, staphyloma,

or imperforate pupil, originate in inflammation; it should be a warning to every member of the medical profession to combat it under whatever form it may appear, *ab incepto*, and throughout, by such means as will insure success, and prevent those dreadful effects already alluded to; and the accomplishment of this, even in one instance, should afford the practitioner more satisfaction than the dexterous performance of one hundred operations, undertaken with a view to their removal. I venture to assert, we shall seldom fail to fulfil our intentions in ophthalmia, if the mild treatment I have endeavoured to point out be adopted, and that we see the disease at its commencement, before mischief has been done; and we should not despair of success, even in those cases wherein injury has been sustained before we are consulted. Chronic ophthalmia will certainly sometimes remain stationary for a considerable time, and resist the means we employ to remove it, but this should never make us impatient, or hurry us on to change our practice, or make experiments. In the management of this disease, even as it regards the most trifling appearance or symptom, if we cease to act rightly, we begin to incur great additional danger; we should ever keep that in view, and the importance and delicacy of the diseased organ, which can only be preserved by a patient perseverance in consistent practice, and avoiding *every thing* that can irritate.

It has been my object to make as few observations as possible, and that those should bear on the most important points of practice, and serve as an example in all; but it will be readily perceived, that I have left some considerations wholly out of view, as the age and constitution of the patient. From some men labouring under an attack of purulent ophthalmia, I have taken from forty to forty-five ounces of blood, at one general bleeding, before the symptoms yielded completely, and on return of the inflammation repeated the bleeding to the extent that circumstances seemed to require each time. In infants again, who are subject to a very dangerous species of purulent ophthalmia, we shall find the application of a leech or two, repeated if necessary, and *proper* attention to the state of the first passages, abundantly sufficient. The violence or mildness of the disease must be taken into consideration, as well as the age of the patient, and our practice regulated accordingly; but the principle of the treatment I have advised in the foregoing observations admits, in my opinion, of no variation whatever in *any* species of idiopathic ophthalmia. In symptomatic ophthalmia it will be our duty to look for the principal disease, and remove it by such means as may be adapted to each particular case, taking care to preserve the eye from the effects of inflammation in the mean

time, by the means already mentioned, which we must use as the disease may appear to point out. I have a detailed statement of some cases of ophthalmia by me, with the curative means daily employed for a considerable time, and notes of other cases; but as they contain nothing that I have not noticed in a general manner in those observations, I shall not insert them here.

XI.

Some Observations on the Varioloid Disease, which has lately prevailed in Edinburgh, and on the Identity of Chicken-pox and Modified Small-pox. By JOHN THOMSON, M. D Professor of Military Surgery in the University of Edinburgh, Surgeon to the Forces, &c.

DEAR SIR,—I beg leave to communicate to you the results of some observations which I have had occasion to make in attending to the progress of the eruptive varioloid disease that has lately prevailed in Edinburgh, and of the occurrence of which, in the Military Hospitals, my friend Mr Hennen has given so accurate and interesting an account in the present number of your Journal.

My attention was first called in a particular manner to this disease by the cases of it which occurred in the Depot Hospital, and by the cases in the Castle, produced by inoculation, with the matter taken from Mr Hennen's son. Since that period I have seen in various parts of the town seventy two cases of this eruption, including those which have been detailed by Mr Hennen. Of this number eight have had the disease after having passed through the small-pox, twenty-seven after having had the cow-pock, two have had the disease co-existent with cow-pock, and thirty-five, including the six children who were inoculated in the Castle, had not passed through either small-pox or cow-pock. Three of the children affected with this disease after cow-pock had previously passed through an eruption of the same sort, and in one of these, I have had the best opportunity to observe, that the disease has each time exhibited the appearances which have been supposed to be characteristic of chicken-pox.

The greater part of those affected with this disease, who came first under my notice, had previously passed through either

small-pox or cow-pock, or had had the disease communicated to them by inoculation. In watching the appearances and progress of the eruption in these persons, I was for a considerable time inclined to regard it as chicken pox, till having an opportunity of observing its severity and fatality in those who had not undergone small-pox or cow-pock, I was compelled to abandon that idea, and to believe that in all the different forms under which this eruption has appeared, it could be no other than the small-pox.

This epidemic has attacked three different classes of persons, 1*st*, Those who had passed through small pox; 2*dly*, Those who had had cow pock; and, 3*dly*, Those who had had neither small-pox nor cow-pock, and in all of these it has appeared to possess some common characters. It has usually commenced in a vesicular form, or in a papular speedily becoming vesicular, and has become pustular only in some cases in its progress. The pustules have appeared sometimes with, and sometimes without a central depression. The eruption has been irregular in size and form, as well as in the place of its first appearance, and in most instances it has appeared to occupy only the surface of the skin. It has in almost all instances come out in successive crops, some of which have appeared on the body after the eruption was at the height on the face. It has in general appeared even in severe cases to have arrived at the height on the face by the 6th day of the eruption, and in the milder not unfrequently by the 4th or 5th day. The fluid contained in the vesicles and pustules has in a great number of instances appeared to be lymph rather than pus, even to a late period of the disease, and has generally dried into horny scabs covering tubercular elevations of the skin, which, in several instances, have been followed by pits or depressions of that texture. In the decline of the eruption, vesications upon an inflamed basis of a greater or less extent, have frequently appeared upon the extremities, generally filled with lymph, but in a few instances with air; and, in some instances, small abscesses have formed in the subcutaneous texture. This eruption has rarely had any of the smell peculiar to small-pox. It has produced but very little temporary blindness, and has seldom been accompanied by the symptoms of secondary fever.

In four of the eight patients who had had small-pox, this epidemic has appeared in a highly aggravated and somewhat malignant form. Comparatively but few, I believe, have ever recovered of primary natural small-pox who have had them in number and form similar to those described in Nos. 12, 13, and 14, of Mr Hennen's cases. The disease in his 4th case,

though severe, could not be said to be malignant, and in the other three instances it has been so mild, and of so short duration, that, had these cases occurred before the vaccine inoculation was known, no practitioner of experience would, I am convinced, have hesitated in pronouncing them to be distinct and unequivocal cases of chicken-pox.

Of the twenty-nine patients who had undergone cow-pock inoculation, no one has died, and three only have had the disease in a very severe form. In by far the greater part of this class, the eruption has been papular or vesicular, without becoming distinctly pustular, and when it has become so, the pustules have appeared chiefly on the face, while the disease has remained vesicular on the rest of the body. In some of these cases the eruption has been at the height by the third, in others by the fourth, in most by the fifth, and in the severer by the sixth or seventh day. I have not been able to discover in the appearances, progress, or termination of the disease, as it has occurred in those who had been vaccinated, any symptoms by which I could distinguish it from the three varieties of chicken-pox described by Dr Willan, or from the numerous cases of that disease which I had seen before, and since the practice of vaccination has been introduced.

Of the twenty-nine patients who have had this disease in the natural way, without having previously passed through cow-pock or small-pox, nine have died. In five of these fatal cases the disease was of the kind which has been so well described by Dr Rogers of Cork, and by the late Dr Walker of this place, under the name of malignant crystalline or water-pox. In two of these, petechiæ or livid spots made their appearance before death; three died on the 6th, and two on the 8th, day of the eruption. In the other four cases, the disease was pustular and confluent, one died on the 9th, two on the 12th, and one on the 18th day.

In thirteen of those twenty-nine cases, the disease, though it has not proved fatal, has been more or less severe. In several, particularly in adults, it had from the first the appearances which are usually described as characteristic of genuine small-pox, sometimes of the distinct, and at other times of the confluent kind. In others, the disease had at first the appearance of aggravated chicken-pox, rather than of small pox, the eruption coming out in successive crops, and being chiefly vesicular in its first stages, and becoming only pustular in its progress. In very few of the severer cases have there been any symptoms of secondary fever, and these have been mild and of short duration.

In the remaining seven cases the disease was remarkably

mild, so much so as to resemble chicken-pox, or the inoculated rather than the natural small-pox. In these there was comparatively but very little eruptive fever, and in three or four instances the disease seemed to be at the height by the fourth or fifth day. Had not these cases occurred in situations where the malignant small-pox existed, I should not have been disposed, from the appearances which manifested themselves, to believe that they could have originated from the infection of genuine small-pox.

The history of the progress of this contagion in the military hospitals has been so fully and circumstantially related by Mr Hennen, as to render it quite unnecessary for me to enter upon it. I shall only remark, that there seems no reason to doubt, that all the cases of mild and malignant small-pox which have occurred in the Castle, were derived from matter taken from Mr Hennen's son. He and his brother appeared to have caught the disease from Sergeant Williamson's son, and this boy again from the patient Wright in the Depot Hospital, who passed through a disease which was regarded as distinct and mild chicken-pox. I may add, that, in one of Mr Hennen's children, the disease was so mild as to escape almost unobserved; and in the other, from whom the matter was taken for inoculation, though the constitutional symptoms were at first severe, the eruption appeared to me to afford, in every step of its progress, one of the best marked cases of chicken-pox which had ever come under my observation.

Though in other parts of the town it has been more difficult to trace accurately the progress of the contagion of this epidemic, yet, in several situations, the mild and malignant form of the disease have appeared evidently to produce each other. This was particularly obvious in two situations where the disease prevailed extensively, in the different floors of a tenement on the Castle Bank, and in those of another tenement on St Leonard's Hill. From the fatality of the disease in these two situations among the children who had not been vaccinated, and its aggravated form even in some of those who had been vaccinated, no room was left for doubt that the disease was malignant small-pox, though in both situations several children passed through it in a form so mild and so accurately resembling chicken-pox as, in my opinion, not to be distinguishable from that disease. I have been informed of the mild form of the disease producing the malignant in unvaccinated persons in three other places of the town besides those I have mentioned, and that too in families in the better condition of life. I hope the different medical practitioners who have witnessed the oc-

currence of this important fact, will be induced to communicate to the public an account of the circumstances in which they respectively saw it occur.

It was my having seen the disease at first only in its mild form, and among those who had had small-pox or cow-pock, that induced me to believe, for a long time, that even the aggravated cases which presented themselves to my observation, could only be cases of chicken-pox; and I was the more disposed to take this view of it, that I had formed a similar judgment with regard to an epidemical eruptive disease, which I saw prevailing extensively in the villages of Colinton, Slateford, and Currie, during the year 1809. The present epidemic appeared to me to resemble in every particular that which I then had occasion to see, and which, from a careful comparison of its symptoms in the milder cases, with Dr Willan's description of chicken-pox, I had concluded to be that disease. I was the more confirmed in my belief of these epidemics being chicken-pox, from my observing at both periods two symptoms occur in several patients which have been regarded by Dr Willan and others as diagnostic of chicken-pox. I allude to the succession in the crops of the eruption, and the formation of vesications of greater or less extent, resembling those made by scalding water, occurring among, or in the interstices of the eruption, and producing the appearance which has been termed by some the *swine pox*, and which, in treating of the diseases of the skin, I have been in the use of pointing out to my pupils as marks by which, in doubtful cases of small-pox or chicken-pox, they might determine the true nature of the disease. I mention this circumstance with a view to show the reluctance and difficulty which I have had in adopting the conclusions that have forced themselves upon my mind, and which I shall now briefly state to you.

1st, I have been convinced, by the varieties which have appeared in the form of this epidemic in the different individuals whom it has attacked, that the descriptions which have been given of the appearances and progress of the eruption in small-pox by our best systematic authors, are, in many respects, imperfect; that the diagnostic marks which have been pointed out between small-pox and the disease that has been termed chicken-pox, are not to be relied upon; and that no applicable marks of distinction between modified small pox and chicken pox have hitherto been established. My observation would lead me to believe, that the eruption which succeeds to cow-pock, has more of a vesicular or varicelloid appearance in infants, than it has in adults, while, in these again, it shows a disposition to become pustular, and exhibits more of the characters of small-pox.

2dly, It appears from the records of medicine, that the same person may have small-pox twice, (if not oftener,) during life and the number of cases of this which have lately occurred in so short a time in Edinburgh, and in so limited a number of patients, seems to me to warrant the conclusion, that this must have been a much more common event than has usually been imagined. It is an event which, I conceive, must have occurred frequently, though its occurrence is denied by some, and comparatively but few instances of it are recorded, even by those who believed in its possibility.

3dly, It has been, I conceive, incontrovertibly established by Dr Jenner and his followers, that cow-pock has the property of rendering those who have passed through it, much less susceptible of small pox infection than they were before; and, besides this, that it possesses also the invaluable property of modifying the small-pox in those who receive them, and of converting them, from the most fatal of all diseases, to one scarcely, if at all fatal. A sufficient number of observations have not yet been collected to prove satisfactorily, that this last property is possessed in an equal degree by the small-pox, though it seems probable from some, but not all of those cases of secondary small pox which have been recorded, as well as from the result of some of the cases of this kind which have occurred in Edinburgh, that small-pox also possess a similar property.

4thly, By admitting that small pox possess this modifying property, it will follow, that, in the instances in which they exerted this influence, previously to the discovery of cow pock, they must have produced a mild and less fatal species of small pox, but a species which has not been recognized or pointed out as differing from primary natural small pox by any author with whose writings I am acquainted. It seems, therefore, probable, that this secondary small pox, which we have now so much reason to believe was of frequent occurrence, must have formed a considerable portion of the varioloid eruptions that were formerly denominated the spurious small pox, and afterwards by some the chicken-pox. On the supposition that cow-pock preserves from the infection of small-pox in an equal degree with small-pox themselves (and I am not aware of any facts which tend to prove the contrary,) it will follow that the twenty-seven individuals whom I have mentioned as having had the varioloid disease after cow pock, would, if they had had small-pox instead of cow pock, have become affected with small-pox a second time, on being exposed to the contagion of this disease, and that too in a form which, previously to the discovery of the cow-pock, must have appeared to practitioners as spurious small-pox or

chicken-pox. In this case it is evident that thirty-five of thirty-four of the patients who took the varioloid disease in the natural way, would have passed twice through small-pox.

5thly, After Dr Heberden had distinguished chicken-pox from small-pox, and had convinced himself and the medical world, that these diseases arise from two contagious poisons, specifically distinct from each other, it seems probable, that the cases of modified secondary small-pox which may have occurred, must have been described as cases of chicken-pox, since we nowhere find any hint of the possible co-existence of these two diseases, or of the danger in which medical practitioners are of confounding them together, and also, since we find authors of so great authority as Dr Monro *Primus*, and Dr Heberden, affirming that small-pox after small pox is an event of rare occurrence. The former says, "My correspondents almost all agree with me in affirming, that they never saw any attacked by true small-pox after they had the true kind, whether communicated by art or by nature;" and the latter, "It would be no extravagant assertion to say, that here, in England, not above one in ten thousand patients is pretended to have had it twice, and wherever it is pretended, it will always be as likely that the persons about the patient were mistaken, and supposed that to be the small-pox, which was an eruption of a different nature, as that there was such an extraordinary exception to what we are sure is so general a law."

It therefore appears to me, 6thly, That it now remains to be investigated, in what proportion of the cases, which have been denominated chicken-pox, it is probable the disease has been secondary modified small-pox; and, upon the supposition of these being two distinct diseases, by what marks we are *in future* to distinguish them from each other? I can only repeat, that, in a great proportion of the cases of small-pox which have occurred to my observation after small-pox, as well as in those cases that had been modified by previous cow-pock inoculation, I have not been able to distinguish them from chicken-pox, but have found every symptom in them to correspond most accurately with the descriptions of the varieties of chicken-pox, which have been given by Heberden, Willan, Bateman, and others. I am, therefore, satisfied, that previously to the discovery of the cow-pock, secondary small-pox being a disease frequent in its occurrence, must have stood in nearly the same relation to primary small-pox, that modified small-pox now stand in to cow-pock; and my present impression is, that it may be, that chicken-pox and modified small-pox are one and the same disease.

I am not aware of any accurate or extensive series of observa-

tions which contradict this hypothesis, nor do I think it can well be set aside, till it shall be proved that chicken-pox occur generally in persons who have not passed through cow-pock or small-pox, and prevail epidemically without cases of small-pox appearing among them; but of this I find no unequivocal example in the past records of medicine. There are upon record, it is true, many cases in which the spurious or chicken-pox are said to have preceded small-pox, and others in which the chicken pox are said to have intervened between the cow-pock and the modified small pox. Before, however, admitting that in the production of these cases, there operated two poisons specifically different, it will be necessary to be assured, that the appearances exhibited by chicken-pox cannot be produced by the contagion of primary small-pox, and *vice versa*, as well as, that the contagion of small-pox cannot produce an eruptive disease twice in those who have undergone cow-pock inoculation.

It will be necessary also to ascertain, whether those who have passed through small pox in its milder form, are equally secure against a second attack of small pox, as those who have passed through the disease in its more regular and severe form. For if it shall be found that those who have passed through the mild sorts of small-pox are less secure against a second attack, than those who have passed through the severe, it will then be rendered probable, that many of the cases which have been considered as cases of chicken-pox, preceding small pox, were in fact only cases of mild small-pox, similar to some of those which have been produced by the present epidemic, in individuals who had neither passed through cow-pock nor small-pox, and which exhibited in their appearance the characters that Dr Heberden has assigned to chicken-pox.

Can it be that the hypothesis of the contagion of chicken-pox being specifically different from that of small-pox, has been had recourse to, in order to explain those cases of secondary small-pox which may have occurred after variolous inoculation, and in the benevolent wish of vindicating that practice from the aspersion of its being inefficacious?

7thly, It seems to me certain, that the epidemical disease which has of late prevailed in Edinburgh, is the same with those varioloid diseases which, since the introduction of cow-pock inoculation, have been observed in many places of this and other countries, and which have been by some medical practitioners regarded as small-pox, and by others as chicken-pox. Of this kind, I conceive, was the disease which Mr Brown of Musselburgh has described, as occurring in forty-eight individuals after cow-pock inoculation. This author has omitted to mention the period at which the

eruption was at the height in ten of his patients, but in the remaining thirty eight, it deserves to be remarked, that the eruption was in five of them at the height by the 3d day; in two by the 4th; in twelve by the 5th; in seven by the 6th; in nine by the 7th; and in three by the 8th day; and that no instance is recorded of death having occurred in any of these patients. Though Mr Brown's statement was made for the purpose of throwing discredit upon the efficacy of cow-pock inoculation, the salutary powers of that practice in modifying small-pox, seem to me to be established by his cases, beyond all possibility of doubt or cavil. I can have no doubt also, that this is the disease, concerning which the medical practitioners of Forfarshire published a short Report in 1813, and of which Dr Adams has given a more minute detail in his Inaugural Thesis, printed here in 1814. This gentleman mentions, in p. 42, that this disease, which the medical men of Forfarshire have concurred in denominating small-pox, had occurred in five or six individuals, who had formerly passed through that disease. The efficacy of the cow-pock in modifying the small pox, is proved by the testimony of the medical practitioners, as to the mildness of the disease in those who had been vaccinated; and also by the fact, that no patient who appeared to have been properly vaccinated, died of it. The very interesting account given by Dr Dewar, of the eruptive disease which has appeared lately in Fife, contains many proofs, that the disease which he describes is the same with that which at present exists in Edinburgh. Of seventy cases attacked with this eruption, fifty-four had been vaccinated, and of these, one child who had been long in bad health, died. Of sixteen who had not been vaccinated, four died, a proportion wonderfully near, though somewhat less than that of the mortality which has occurred in Edinburgh.

Lastly, It seems to me, that the hypothesis which I have thrown out, if it shall be confirmed by future experience, will afford a satisfactory explanation of the nature of those varioloid diseases which have of late years been observed to succeed to the practice of cow-pock inoculation, and will, at the same time, reconcile the various and discordant opinions which have been entertained by medical practitioners, respecting these diseases.

I shall only add, that I feel no anxiety about the fate of this hypothesis, any farther than that it may tend to promote investigation, in the important subject to which it relates, and to defend the most valuable of all modern discoveries, in the only point in which it can now be supposed to be vulnerable.

A friend, in whose judgment and experience I place the greatest confidence, has been pleased to express himself to me

in the following terms: "The opinion suggested by you, that these diseases may all owe their origin to one and the same contagion, if true, would close up much debateable ground—connect and explain many anomalies—simplify our future inquiries—and place beyond any doubt the supremacy of vaccination, as a prophylactic of regular small pox. Although the opinion suggested does still appear to me very doubtful, I think you will do quite right to publish your observations at once, and in the way you proposed. This will re-agitate a most important pathological question, and elicit from others interesting information on many yet doubtful points in the history of those diseases Though doubtful, however, I am far from thinking your opinion fanciful or unfounded; on the contrary, I could furnish some hints rather favourable to its probability."

Before concluding these observations, permit me to avail myself of this opportunity, to return my best thanks to my friends, Drs Maclagan, Moncrieff, Tweedie, and Bartlett, and to Messrs Johnston, Schetky, White, and Thomson, for the opportunities which they have afforded me of seeing the patients affected with this disease under their care; and permit me at the same time to say, that I should feel myself particularly obliged to any of your readers who take an interest in this subject, by their communicating, through the medium of your Journal, or by letter, addressed directly to myself, any facts which may have occurred in their practice, tending either to confirm or to refute the hypothesis, *that small-pox, chicken-pox, and modified small-pox, all proceed from one and the same contagion.* I remain, dear Sir,

5, *George Street,* } JOHN THOMSON, M. D.
15th September 1818. }

PART II.

CRITICAL ANALYSIS.

I.

I. *Report for the Select Committee on Contagious Fever in London.* Ordered by the House of Commons to be printed, 20th May 1818. pp. 52. Folio.

II. *A Bill to Establish Fever Hospitals, and to make other Regulations for the Relief of the Suffering Poor, and for Preventing the Increase of Infectious Fevers in Ireland.* Ordered by the House of Commons to be printed, 19th May 1818. Pp. 12. Folio.

III. *A Succinct Account of the Contagious Fever of this Country exemplified in the Epidemic now Prevailing in London; with the appropriate Method of Treatment as Practised in the House of Recovery; to which are added, Observations on the Nature and Properties of Contagion, tending to Correct the Popular Notion of this Subject, and pointing out the Means of Prevention.* By THOMAS BATEMAN, M.D. F.L.S. 8vo. London, 1818. Pp. 177.

IV. *Statement relative to the present Prevalence of Epidemic Fever among the Poorer Classes in Glasgow; together with some Suggestions both for affording more Adequate Assistance to the Sick, and for Checking the Further Progress of the Contagion; in a Letter to the Honourable the Lord Provost of Glasgow.* By RICHARD MILLAR, M.D. Lecturer on Materia Medica in the University of Glasgow. Pp. 48. 8vo. Glasgow, 1818.

V. *Practical Observations on Continued Fever, especially that Form at*

present existing as an Epidemic, with some Remarks on the most Efficient Plans for its Suppression. By ROBERT GRAHAM, M.D. Regius Professor of Botany in the University of Glasgow. Pp. 84. 8vo. Glasgow, 1818.

VI. *An Attempt to Estimate the Power of Medicine in Controlling Fever.* By WILLIAM BROWN, M.D. Fellow of the Royal College of Surgeons. Pp. 65. Edinburgh, 1818.

VII. *A Statement of the Results of Practice in Continued Fever as it Prevailed in Auchtermuchty and Neighbourhood in* 1817; *with an Appendix containing a Few Practical Remarks on Measles, Scarlatina, &c.* By JAMES BONNAR, Surgeon. Pp. 80. Perth, 1818.

VIII. *Observations on the Cure and Prevention of the Contagious Fever now Prevalent in the City of Edinburgh and its Environs; with an Inquiry into the Nature and Origin of the Specific Poison producing the Various Forms of this Disease, the Means necessary for Preventing this Formation, as well as Arresting the Progress of the Contagion, with the best Chemical Processes for that purpose.* By JOHN YULE, M.D. F.R.S.E. 8vo. Edinburgh. Pp. 58. 1818.

IX. *Dissertatio Medica Inauguralis de Typhi Indiciis.* Auctore GULIMO LODGE KIDD. Pp. 25. 8vo. Edinburgi, 1818.

X. *Disputatio Medica Inauguralis de Febre Pestilenti, quae annis* 1817 *et* 1818, *Strabanæ et per loca ei vicina grassata est.* Auctore FRANCISCO ROGAN. Pp. 35. 8vo. Edinburgi, 1818.

XI. *Reports of the Practice in the Clinical Wards of the Royal Infirmary of Edinburgh, during November and December* 1817, *and January, May, June, and July,* 1818. By ANDREW DUNCAN, junior, F.R.S. Professor of Medical Jurisprudence, &c. Edinburgh, 1818.

THE state of continued fever in the empire is at present the subject of universal interest. Fever at all times exists in a greater or less degree among the lower classes of the community, who suffer privations of every sort, and are exposed to all kinds of agencies hurtful to health. It occasionally becomes more preva-

lent in certain situations; continues epidemic for a certain period, and again declines to its usual standard. But in our time we have never known it extend so generally over the Empire, or continue so long as the publications before us seem to prove; and we fear that it has not yet reached its height, for, as far as we can learn, it has not begun to decline obviously in any quarter, while it is daily spreading into places hitherto free from it. We have indeed to regret the deficiency of our documents in regard to the progress of the fever, and it appears, some of those institutions from which we have a right to expect information cannot furnish it.

"Your Committee cannot close this Report without expressing a regret that any hospital in the Metropolis should not possess a register of diseases: they trust this omission will speedily be rectified. And, in their opinion, it would be advisable to register, not only the diseases, but also the name and profession of the patient. It must at all times be a matter of useful knowledge to be able to learn the quality and extent of the diseases that prevail at different periods; and your Committee have felt the want of that information, arising out of this strange irregularity, in not being able to ascertain the average fever cases that have occurred for some years past in the Metropolis."

We have quoted this censure, because, coming from such a quarter, it will have more weight than the opinion of an anonymous critic; and we wish it to be universally known, not merely by the medical attendants of all public institutions, but by the unprofessional governors, that, upon these general points of public interest, it is expected, that they at least record and preserve satisfactory documents. This we know is the practice of many hospitals, whose registers contain the information at present so much desired; but they should go one step farther, and publish an annual abstract of their practice, and render it accessible by purchase to the profession at large. That almost all hospitals publish annual reports, we are fully aware, but, in many cases, they are intended only to furnish information as to the expenditure of the funds, and the names of the office-bearers, and as a public acknowledgment of the support of the subscribers. Such reports, however, are of no use in marking the progress of disease, and except for purposes of the nature of those mentioned above, do positive harm, by causing hospital reports in general to be neglected as utterly without value. This, however, our readers well know is not the case; and the reports we have of late years received from the Fever Hospitals of Dublin and Cork, are worthy of being imitated by hospitals of every kind, and in every place. Indeed, the public have a right to expect this information in return for their liberality in supporting them. We mention

these reports particularly, not as being the only ones of the kind, but because they have been transmitted to us, and we regret that reports, containing valuable information, are often printed merely for local circulation to obtain funds, and thus are of less general use. We therefore request the transmission of a copy of all such reports, and shall make it our study to diffuse and preserve the facts to be learned from them. We have only to add upon this subject, that the most valuable reports often proceed entirely from the professional zeal of the reporters, and are only occasional. This leads us to suggest, that the Governors of Hospitals should enjoin their regular appearance as a duty upon their medical officers; and we will venture to say, that where it has not yet been practised, its good effect upon the institution in an economical, as well as a professional point of view, will soon be apparent.

The present epidemic seems to have commenced in Ireland, then to have accompanied the constant influx of Irish labourers into Scotland, and lastly to have appeared in Engand. We shall trace its progress so far as we have documents before us.

The fever hospital in Dublin was opened in 1804, at first for a particular district, and afterwards for the benefit of the whole city. From January 1805 to 1810, the number of admissions was nearly equal, about 1100 each year. In summer 1810, a fever of unusual malignancy broke out, and during the rest of the year the admissions were double the usual number. We are informed in Dr Grattan's excellent report, that an epidemic prevailed at the same time throughout many parts of Ireland. From this time the epidemic fever seems scarcely to have subsided in Dublin at any time, and upon the whole to have greatly increased, the admissions into the fever hospital in 1815 being 3787. But this does not include all the fever cases of Dublin, for there are other hospitals where fevers are received, and in the Hardwicke Fever Hospital, Dr Percival reports in 1813, 1842 cases; in 1814, 2012, and in 1815, 2388, in 1816 we have only the number in the wards under Dr Cheyne's care, amounting to 780. It therefore appears, that, since summer 1810, fever has been unusually prevalent in Dublin. From the reports of the House of Recovery at Cork, it also appears that there was an increase in 1810 and 1811, a further increase in 1814 and 1815, and during 1816 and 1817, it was rapidly progressive, the numbers in the last year being 2707, whereas in 1809 it was only 278. There seems also to be in Cork another institution, called Dispensary Fever Asylum, which admitted 1520 patients from June 24 to December 1, 1817;

and had 2701 externs from November 8th 1816, to December 1817. The progressive increase of fever in Cork from 1810 seems, therefore, to be also fully made out. Dr Rogan's valuable inaugural dissertation gives an account of the progress of the fever in Strabane, where it prevailed chiefly in the months of August, September, October, November, and December 1817. In another town of the north of Ireland, Dr Kidd observed its increase to begin in July.

From Scotland our documents are very scanty. We have a table of the cases of fever admitted into the Glasgow Infirmary from its foundation in 1795, from which it appears that previous to 1815, the greatest numbers admitted were in 1799, being 128, and in 1800, being 164, and the same number in 1802, but in 1815 it was 230, in 1816, 399, and in 1817 no less than 714. In Edinburgh the deaths from fever in the hospital,* during the years 1815 and 1816, was 12 each year, during 1817 they increased to 33, and in the first five months of 1818 they were already 32; the fever cases admitted during 1817 were 511, and in the first five months of 1818 578. The New-Town Dispensary, begun in September 1817, has since reported the number of fevers seen during each succeeding quarter,† 32, 19, 19, 28, 49, 74, 77, 173, 446, the last being the numbers of the first quarter of the year 1818. Mr Bonnar also states that epidemic fever began at Auchtermuchty in October 1816, and continued till the end of May 1817, and almost totally disappeared towards the end of June.

In regard to London, Dr Bateman informs us that the existence of an epidemic fever is unquestionable, and this statement is confirmed by the evidence brought before the Committee of the House of Commons. The House of Recovery, the Fever Hospital of London, which, for fourteen years, was so ably conducted under the sole superintendence of Dr Bateman, was opened in February 1802. From its records it appears that the number of patients admitted in 1803 was 164, and in 1804 176; next year it was only 80, it continued declining, till it reached its minimum 29, in 1809; in 1815 it was again 80; in 1816, 118, and in 1817 it rose to the unprecedented number of 760. The number of applications began to increase in the autumn of 1816, before the influence of the scanty harvest could be felt. During the months of January and the early part

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* See Edinburgh Medical Journal, Vol. XIV. p. 402.

† See Vol. XII. p. 245, 375; Vol. XIII. p. 117, 245, 398, 521: Vol. XIV 120, 256.

of February few patients were received. In March the fever reappeared in certain districts, and it was most particularly prevalent from the beginning of August to the middle of November, as appears from the following statement of monthly admissions in 1817; June, 28; July, 22; August, 67; September, 81; October, 109; November, 92; and December, 68. January 1818, 68; February, 56; April, 52. Also in the other hospitals of the metropolis, there was a corresponding increase of the number of fever patients admitted. The same increase of fever has been observed in other cities in England. Dr Pritchard stated in this Journal, * that during the last winter, from January 1817, typhus had prevailed in Bristol and its vicinity, to a much greater extent than for many previous years. Mr Edmonstone † has also recorded its prevalence in Newcastle upon Tyne and its neighbourhood. The evidence of Dr Holme of Manchester states, that, in the House of Recovery there, previous to 1800, about 380 cases were admitted on an average; in 1800, 747; in 1801, 1070, in 1802, 601, in 1803 the number fell to 556, and kept under 300, except in 1806, when 311 cases were admitted; in 1814, 379, and in 1818, 387.

We have condensed into the following tables, all the facts relative to this subject we have been able to procure; the one contains the annual admissions for a considerable series of years, and the other the monthly admissions since the epidemic attracted general notice. It would greatly facilitate a comparative view of the state of fever in different places, if all institutions were to make up their annual reports to the same day, the 1st of January for example, or at least present them in such a form, that the number admitted and dismissed within the kalendar year might appear. This may easily be done by stating the quarterly or monthly returns. It would also be of advantage, if to the hospital reports were added, the population of the city or district to which they belong, according to the last returns, and the deaths from fever and other diseases, as accurately as they can be known from our imperfect bills of mortality. This information is necessary for instituting a comparison of the prevalence of fever in different places.

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* For October 1817, Vol. XIII. p. 413.

† For January 1818, Vol. XIV. 4. 71.

No. I.

Annual Report *of Cases of Fever admitted into various Public Institutions.*

	Ireland.			Scotland.		England.								
Years														
1795				18										
1796				43										
1797				83		371								
1798				45		339								
1799				128		398								
1800				104		364								
1801				63		747								2908
1802				104		1070	164							2201
1803	251			85		601	176							2326
1804	190	422		97		256	80							1702
1805	200	1028		99		184	66							1307
1806	444	1272		75		268	93							1332
1807	192	1092		25		311	63							1033
1808	232	1072		27		208	69							1168
1809	278	1056		76		260	29							1066
1810	432	1774		82		278	52							1139
1811	646	1478		45		172	43							906
1812	617	2273		16		140	61		40					783
1813	550	2620	1842	35		126	85		19					716
1814	845	2398	2012	90		226	59		27		24			989
1815	717	3787	2388	230		379	80		38	84	26			1340
1816	1016			399		185	118	50	26	76	17	66	60	1299
1817	2707	5745	8915	714	511	172	760	253	97	147	38	168	120	1299
	1	2	3	4	5	6	7	8	9	10	11	12	13	14

No. 1. Cork House of Recovery, and Fever Hospital, Dr Barry.
2. Dublin Fever Hospital in Cork Street, Dr Grattan.
3. Dublin Hardwicke Fever Hospital, Dr Percival.
4. Glasgow Royal Infirmary, Dr Graham.
5. Edinburgh Royal Infirmary, Dr Spens.
6. Manchester House of Recovery, Dr Holmes.
7. London House of Recovery, Dr Bateman.
8. Guy's Hospital, London, Dr Marcet.
9. London Hospital, Dr Yelloly.
10. Carey Street Dispensary, London, Dr Laird.
11. Westminster Hospital, London, Dr Tuthill.
12. Finsbury Dispensary London, Dr Lidderdale.
13. Middlesex Hospital, London, Dr Southey
14. Deaths from Fever in London.

Population according to the return in 1811; Cork, 80,000; Dublin, 300,000; Glasgow, 100.749; Edinburgh, 102,987; Manchester, 98,573: London, 1,050,000; Newcastle, 27,587.

No. II.

MONTHLY REPORT *of Fever Cases admitted into various Public Institutions since May* 1816.

	Ireland.		Scotland.			England.				
May 1816			24			10	0			
June			37			7	1			
July			22			9	3			
August			22			11	1			
September			26			7	2			
October			32			5	1			
November			32			6	0			
December	124		14			3	3			
Jan. 1817	144		44	22		9	0			
February	146	13	25	17		1	1			
March	160	6	27	19		3	1			
April	170	13	43	40		2	1			
May	204	3	52	38	41	5	0			
June	219	10	57	27	28	11	1			8
July	224	60	53	36	22	17	0		36	57
August	262	206	79	42	67	15	1		17	41
September	265	287	80	52	81	28	1		15	51
October	414	233	69	54	109	25	2		13	44
November	425	193	118	65	92	19	1		10	22
December		142	115	99	68	12	1			
Jan. 1818		83	100	93	92	19	3	13		
February			82	96	68	10	2	14		
March				96–46	56	19	0			
April				62–75	52		3			
May				46–64						
June				64–75						
July				45–68						
August				48–87						
	1	2	3	4 & 5	6	7	8	9	10	11

No. 1. Cork House of Recovery, Dr Barry.
2. Strabane, Dr Rogan.
3. Glasgow Royal Infirmary, Dr Graham.
4. & 5. Edinburgh Royal Infirmary and Fever Hospital, Dr Spens.
6. London House of Recovery, Dr Bateman and Mr Philips.
7. London Carey Street Dispensary, Dr Laird.
8. London, Guy's Hospital, Dr Marcet.
9. London Hospital, Dr Yelloly.
10. Newcastle Fever Hospital, Mr Edmonstone.
11. ——————Dispensary, ditto.

These facts leave no doubt as to the unusual prevalence of fever generally over the empire, but possibly they give an exaggerated idea of its extent. In ordinary times, when there is no alarm and no unusual measures are taken, a large proportion of those affected with fever remain unknown in their hidden abodes. But no sooner is the attention of any active members of the profession, or of the public, directed to the subject, than every case is brought to light, and thus without any actual increase of disease, and by means which tend to diminish it, there is an apparent addition to the number of those affected. The very attempt to register the sufferers from any one disease at any time, and in any place, of itself produces results which might lead to the conclusion, that such disease was unusually prevalent in that place and at that time. The erection of an institution for relieving the ruptured poor, for the diseases of the eye, for the blind, or deaf and dumb, instantly makes generally known a frequency of those affections of which the public had previously no idea. The foundation of a new infirmary or dispensary does not diminish the number of patients relieved at those already established, but, in proportion as it is successful, upon the very principles of competition, it tends to augment them, while in fact it diminishes the amount of disease. If the disease inquired after be contagious, our fears magnify the danger, and increase our activity; and every derangement of health having any resemblance to it, is included in the enumeration. The sick themselves are alarmed, and seek for aid when it is offered, and their friends and neighbours, for their own safety, do not neglect to report them.

It is upon this principle only that an opinion frequently stated upon the present occasion can be explained, that, in the years of epidemic, the fatality is much less than in those in which such epidemic does not prevail, for the reverse is perhaps the truth. Dr Bateman gives the true explanation, that where no epidemic prevails it is only the very bad cases that are sent to the hospital; but we cannot agree with him in admitting that even the comparative mortality is always less. In very general epidemics it is otherwise; and we have only to look into the records of military medicine, to be satisfied that, in proportion as a disease becomes more prevalent in a limited space, it becomes more fatal both absolutely and comparatively. Even in our slighter epidemics there is evidence of this; for the records of the mortality of an hospital only shew the comparative mortality in the ti admitted, but not in the aggregate of those affected admission of the slighter cases during the epidemic, s

accounts for an apparent diminution of the proportionate mortality.

But, even during times of slighter epidemics, the comparative mortality of the cases treated in hospitals is not always less. The number of those admitted into the Fever Institution of London is so small, in proportion to the population, that no general conclusion can be drawn from its returns; the average of sixteen years gives only 129 cases in a population of a million! In Cork, with a population of 80,000, the average of fifteen years gives 622 fevers; the total average of deaths is one in 30, in the four years, when the fevers were above the average, the proportion of deaths was one in 30½; the mortality in the years of greatest prevalence of fever was one in 26 and in 27; and in those of the least prevalence of fever, one in only 47½, and in 48. In the Fever Hospital of Dublin, in twelve years, the average number of patients was 1690, the average mortality one in 14⅓, the lowest mortality was one in 20, and one in 16, during the greatest prevalence of the fever; but the highest mortality took place in 1805 and 1810, when there was a sudden increase of patients. On the Marquis of Abercorn's estates, near Strabane, one in twelve died during the height of the epidemic, and only one in 34 after it began to decline.

Admitting, however, the prevalence of the epidemic to be established, we have next to inquire into the causes producing it. These must be found in some unusual circumstances, and in the evidence before us we find only two mentioned, contagion, and a deficiency of wholesome food. Few subjects have given rise to keener and more interminable controversies than contagion, both as to its general laws, and its being a property of certain diseases. It has been questioned, whether contagion be a property of typhus. We have no doubt upon the subject. We see the disease chiefly affect those who have had intercourse with others already labouring under fever; and the natural conclusion is, that it is owing to this intercourse; and if it uniformly followed such intercourse, and only appeared after it, the conclusion would be almost certain. But we observe, that this is by no means the case; that fever often seems to arise independently of all communication with the diseased, and that the most intimate connection is often unproductive of any bad consequence. The contagionist explains this by saying, that, besides the application of contagion, susceptibility of febrile action in the individual to whom it is applied is necessary for the production of fever; as to excite fermentation, there must both be a ferment, and a fermentible substance. He must also contend, that contagion

may be conveyed from those in whom it was produced, to others who had no direct communication with them; that after it has been applied, it may lie dormant or inactive for a time, or that the same disease may sometimes be produced by contagion, and sometimes by a concurrence of circumstances. The anti-contagionist will endeavour to explain the unequal frequency of fever, by asserting, that the causes which produce it are general, perhaps various, and have been applied to all in whom fever has appeared. From this view of the dispute, it will appear, that an ingenious and well informed special pleader may support either opinion plausibly, or at least render that of his opponents doubtful. Therefore we must not look for demonstration, but rest satisfied with what is the more probable opinion; and here we agree with all the recent writers upon the subject, except Dr Maclean, that the common continued fever of this country, or typhus, is capable of being propagated by contagion; and we differ from Dr Bancroft, inasmuch as we believe, that fever capable of being communicated by contagion, is often generated independently of contagion.

We have next to consider what causes are capable of generating epidemic fever, independently of contagion. Dr Bateman, and others of the most judicious observers, consider it to be unquestionably generated in the first instance by defective nutriment. He afterwards qualifies this assertion by saying, "That it seems probable, that the influence of deficient nutriment is rather a predisposing than an exciting cause of fever, producing that condition of the system, which is liable to be thrown into fever by the slightest disturbing cause; as by anxiety, fatigue, exposure to cold, intemperance," &c. This last opinion is probably nearly correct, for fever can seldom be traced to any one cause, in whatever degree it may be applied, and indeed in some cases, it arises without the application of any obvious cause. We have seen instances of the epidemic fever in individuals, whose situation in life and habits, rendered exposure to contagion improbable, and excluded the operation of the exciting causes to which fever is commonly ascribed. It is not probable that our epidemic depends upon any general contamination of the atmosphere, because it is often for a time limited to certain towns, hamlets, streets, and houses. It does not depend on obvious states of the atmosphere, for it has prevailed nearly equally in summer and in winter, in hot and cold, moist and dry, variable and steady weather. The habitations, habits and clothing of the poor, have undergone no change to account for it, and any mental affection is totally out of the question. There remains only de-

ficient nutriment, and deficient firing, * as causes capable of general operation, and as the former is the one commonly brought forward, we shall consider it a little more closely. If deficient nourishment were the only chief cause of our epidemic fever, we should expect it to begin among that class of people, and in those places where the scarcity of food was first experienced, and to spread over the country without regard to geographical position, according as the means of subsistence failed Was this the case? We have not data to answer the question. The physicians of Cork and Dublin have drawn a heart-rending picture of the miseries of the poor in these places, and Dr Kidd and others have distinctly noticed them as preceding the appearance of the epidemic in other places. But there have always been miserable poor in large cities, and there must be some notable aggravation of the wretchedness, to account for the existence of an epidemic. This can only happen from a rise in the price of provisions, or a diminution of the price of labour, and it would be satisfactory if these were attended to in giving the history of epidemics. We have no means of giving any statement of the wages in the places where fever prevailed; but a short view of the price of wheat and oatmeal, to which potatoes should have been added, previous to, and during the epidemic, may afford some information. An increase of fever seems to have been observed in Ireland in summer 1810, in Scotland in 1815, and in England, not until 1816. In every part of the empire, 1817 has been much the worst year. We shall now state the prices of corn for a series of years, including these.

	ENGLAND.						SCOTLAND.					
	Wheat.			*Oatm.*			*Wheat.*			*Oatm.*		
	L.	S.	D.	L.	S.	D.	L.	S.	D.	L.	S.	D.
1808.	3	19	0	2	8	9	3	6	7	1	2	11
1809.	4	15	7	2	11	4	3	11	7	1	9	0
1810.	5	6	2	2	11	11	4	5	6	1	8	7
1811.	4	14	6	2	8	6	3	18	10	1	4	6
1812.	6	5	5	2	9	8	3	11	9	1	1	0
1813.	5	8	9	2	3	5	5	7	10	1	13	1
1814.	3	14	6	1	13	0	4	16	2	1	12	4
1815.	3	4	4	1	10	0	3	2	5	1	1	0
1816.	3	15	10	1	8	4	2	13	6	0	18	6
1817.	4	14	9	1	19	3	3	8	3	0	18	11

From this we see that the price of wheat in England, though above the average in 1817, was lower than in 1812, 1813, and 1810, when no epidemic prevailed, and oatmeal was considera-

* A philosophical friend is of opinion, that the diseases of the poor depend more upon deficiency of fuel than of food; and Dr Rogan, in his enumeration of the causes of the fever in Strabane, says, "nec superfuit satis materiæ ad ignem idoneæ," there was not enough of turf left for fuel.

bly lower during 1817, and the three immediately preceding years, than in the six first years of the period. In Scotland also, oatmeal, the staple food of the lower classes, was lower in 1817 and 1816, than in any of the preceding years; it was highest in 1813 and 1814, while wheat was also lower in 1816, 1815, 1817, than in any of the other years, and was highest in 1813, 1814, and 1810. These statements do not accord with the opinion of scarcity being a chief cause of the epidemic, and indeed Dr Bateman has distinctly stated that in the autumn of of 1816, before the influence of the scanty harvest could be felt, there was rather more than the usual number of applicants for admission into the House of Recovery. Although it must be admitted that the epidemic fever prevails chiefly amongst those who suffer the greatest privations, yet it occasionally affects those who enjoy all the comforts of life, where the agency of contagion has not been suspected; and the poor are exposed to the operation of other powerful causes, especially the living in close and crowded apartments, the atmosphere of which is literally incapable of serving the purposes of healthy respiration to so many individuals as exist upon it, besides being contaminated by the accumulation of all their effluvia, and abundance of other filth. Mr Hennen has given, in p. 457, the exact circumstances of some of these rooms, from which their nature will be better and more precisely understood.

The means of checking the progress and putting an end to the epidemic should next engage our attention. Many of the causes which contribute to the production of fever are altogether out of our control, such as unknown states of the asmosphere, inclemency of weather, and deficiency of food; others to a certain degree may be counteracted by impressing the poor with the importance of cleanliness and ventilation; assisting them to practise what we advise; but it is chiefly in regard to contagion that well directed measures are capable of exercising a powerful influence over the prevalence of fever. The first and great point is to restrain the communication of the healthy and susceptible individuals with the sick. In the hovels of the poor this is impossible, without altogether removing the affected to an hospital, or other allotted place, which should be provided, though temporarily, for receiving them. The sick and healthy should be equally made to desire this separation as advantageous to both; and in this city we have the example of the active and beneficent Society for relieving the destitute sick, whose conduct in this respect is a model for imitation. The society divided the city into districts, and appointed a visitor to each. When he discovered a case of fever supposed contagious, he reported it to a profes-

sional gentleman attached to that district, whose business it was to judge if it was really of that kind, and if it were, whether the patient should be removed to the hospital. In the latter case, a recommendation was given in the name of the society, to whom a report was made, that if necessary it might take charge of the family during the absence of the person removed, and also take measures for purifying the room, furniture, and clothes, which might have been contaminated; and they distributed widely among the lower classes printed Directions for poor people, in the neighbourhood of those who have fever. In addition to what is commonly stated, it should also be impressed upon them, that although an infected person should be removed as soon after being taken ill as possible, it may be productive of essential advantage, even in the latest stages of fever; for we are satisfied from multiplied observation, that there is more danger of infection from a convalescent, than from a patient in the commencement of fever.

The patients may be removed either to a general hospital, or to a fever hospital. There can be little doubt of the preference of the latter, but they can only be supported in capitals and large cities, and, except during epidemics, are not absolutely necessary. In these times, any large building, even a barn, may be temporarily fitted up as a fever hospital; sufficient space and ventilation being what is chiefly requisite. Without these, a fever hospital would become a pest house, and focus of concentrated contagion, and do harm instead of good; but with these, it is now fully established by experience, that there is no danger to be apprehended from the vicinity of a fever hospital. Where there is no proper fever hospital, it becomes a question how fever cases are to be best disposed of in general hospitals; and here we are also convinced, that it is better to appropriate to them, as in the Infirmary of Edinburgh, certain wards, than to distribute them through the whole house, as is practised in the hospitals of London, not only because the danger of spreading the disease is thus lessened, but because the degree of ventilation suited to fever is injurious in some other diseases. In common years, however, there is not that danger of the fever affecting other patients from a small number of fevers laid amongst them, if they be kept at a proper distance from them. For the sake of instructing the pupils in medicine, it is customary always to have a proportion of fevers in the clinical wards of this place, and, for a long series of years, we did not hear of one instance of its affecting other patients, until this last summer; and it is remarkable, that the two patients who caught fever, one of each sex, lay in closets, and not in the body of the ward with the fever patients, and

their infection was probably owing to the imprudent visits of convalescents. In the same manner, one or two surgical patients got fever in the house, certainly not in consequence of breathing a contagious atmosphere, but from similar imprudent communication.

Although we do not go the length of our highly respected friend, Dr Brown, we agree with him generally in thinking, that the influence of fever hospitals, in checking the progress of contagion, has been greatly overrated by some zealous individuals, who represent that it is only necessary to establish such an institution to put a stop to the disease. The instances of Chester, Manchester, and Waterford, so often brought forward, prove nothing, by proving too much. Their size was infinitely too small to suppress, as it were at once, an epidemic of any great extent. If Dr Currie's statement be correct, that in Liverpool, nearly 3000 fever patients annually, and in ordinary years, receive assistance from the Dispensary, the reception of 1000 of these into a fever hospital, although productive of great advantage to the public, could not possibly check an epidemic fever, unless already disposed to subside. The fever which led to the institution of the House of Recovery in London, must have been very limited in extent, and not entitled to the appellation of epidemic, which was suppressed by a fever hospital, containing sixteen beds. In the year 1803, the total deaths in London from fever were 2326. In the House of Recovery, thirteen died out of 164 admitted. Now, if we suppose, that of these not admitted, one in ten died, there must have been 23,260 affected with fever that year, a number which, if the fever had been disposed to spread, must have furnished a supply of contagion that could not be affected by means so inadequate as the removal of 164 of them, and the purification of a proportionate number of their houses. But we have more lamentable proofs of the justness of our opinion, in the history of fever in Cork, Dublin, Glasgow, and Edinburgh. Cork has possessed a fever hospital since 1803. Last year it received 2707 patients, a melancholy proof that it has failed in keeping fever in check. The records of the Dublin hospitals lead to the same conclusion. The fever hospital was opened in 1804, and contained at first 110 beds, which were increased in 1808 to 180, and the number of patients annually admitted has risen from 422 to 5745 in fourteen years from its foundation, besides the numbers admitted into the Hardwicke Hospital, which was subsequently established. In 1817, no less than 14,660 patients were admitted into these two hospitals. In Edinburgh, besides the allotting of a great part of the Royal Infirmary for the reception of fever patients, and the institution of an excellent fever hospital, and all the great

and judicious exertions of the Society for relieving the destitute sick, the prevalence of fever continues undiminished. God forbid that we should be thought to argue against the propriety of establishing fever hospitals. The individual good they do is incalculable; they never tend to increase the frequency of the disease, but always to diminish it; but we wish to correct the popular errors of supposing that fever cannot exist where a House of Recovery is established, and that when the public have provided funds for maintaining it, they have done enough to counteract the causes of fever. To suppress an epidemic, fever hospitals must be increased and multiplied to a degree not yet contemplated, and other means employed which will require great exertions and sacrifices on the part of the community.

From this melancholy view of the subject, we turn with pleasure to Dr Rogan's dissertation, to quote a proof as strong as can be had in such a matter, that the spreading of an epidemic fever may be checked by suitable means.

In Strabane, fever became unusually prevalent in July 1817, reached its height in September, and again declined till the date of the Report, in February 1818. Of those received into the Infirmary, one in twenty-eight died. In the neighbouring extensive estates of the Marquis of Abercorn, it was carrying off one in twelve of those infected, when the noble proprietor, in the beginning of November, instituted three stations for giving advice and medical aid to his tenantry. The territory, containing 11,269 inhabitants, was divided into districts, over each of which a magistrate was appointed, for the purpose of inspecting and cleaning the cabins and houses, and whenever fever appeared, to white wash them at the expence of the Marquis. He caused printed papers, containing the best directions and rules for preventing and curing fever to be distributed, and appointed two of the most respectable tenantry in each village to see that they were properly observed. The magistrate also was instructed to take a census of the people, to learn and to record how many persons were affected with fever, and how many died. From the table thus constructed, it appeared, that in the course of six months, nearly one-third of the population was affected with fever; that before these measures were undertaken, 2535 were taken ill, of whom 209 died, and after they were undertaken, only 756 were affected, and twenty-two died. The total expences, out of which were supplied food, and other dietetical comforts, and even clothes, of which many of the poor were destitute, amounted only to ten shillings for each patient. Medicine was furnished by the Dispensary.

The means of impeding the propagation of the epidemic, and of finally subduing it, are so ably discussed in several of the

treatises before us, and in the Report of the House of Commons, that we shall make only a few desultory remarks.

We have seen several cases of fever ascribed to the having supported a patient who walked to the Infirmary. Patients should therefore be conveyed to the hospital in an hospital sedan chair, kept for that purpose. This is done by the Fever Institution of London; and the Royal Infirmary of Edinburgh has its own sedan chair, which is always used for conveying the fever patients sent in by the Destitute Sick Society. Public sedan chairs and hackney coaches should never be used, or only those having only a washing lining, which should be immediately taken out and scoured. We recollect, however, that when the Russian fleet came into Leith Roads some years ago, having a very malignant fever on board, the hackney-coaches were employed in conveying them to Edinburgh in every stage of the disease, and some even were dead before they reached the Infirmary, yet we did not hear that any infection was traced to this imprudent measure.

There should be a waiting-room at every hospital for fever patients, or, if that be impossible, one side should be appropriated to fevers, or, they should be received at a different hour, and the waiting-room kept in the most perfect state of ventilation. The waiting rooms in public institutions, we fear, are sometimes the sources of infection; nor can it be otherwise, where fevers, small-pox, scarlatina, measles, hooping-cough, are allowed to sit for some time on the same benches, and in immediate contact with each other, and with other persons healthy and diseased. Another great source of the propagation of the disease, is the idle visits of relations and others, to fever patients, both in hospital and in their own houses. By prohibiting them entirely in the former, the public would be more impressed with their danger in all situations.

"We could so often trace infection to a visit at the Infirmary, that I mentioned the circumstance at a meeting of managers, and requested that the fever wards might be shut against all visitors, unless in cases where the death of a patient was expected. The order was immediately given, and has been acted on ever since,—I am satisfied, with essential benefit." Graham, p. 76.

We are also convinced, that fever patients are in general dismissed out of Hospital too soon, and sent back to their friends when still capable of communicating the disease. We have often traced it to communication with convalescents. When there is no epidemic, this is easily avoided, but not so when there are more patients presenting themselves than the house can accommodate. The convalescents must then make way for the sick. A house

of recovery, in the literal sense of the expression, would be an admirable appendage to a fever hospital, where convalescents might be kept for a fortnight, until all danger of relapse, and of communicating the disease, was over. It might be at some distance from the hospital, and in the country. Might not, in some situations, the empty barracks, or the prisons for prisoners of war, be used for this purpose?

Upon the nature of the fever now epidemic, the authors before us are generally agreed, and we cannot state it better than in the words of Dr Bateman.

"All the attention which I have been able to give during fourteen years, to the passing phenomena of fever, and more especially the observations which I have made while several hundred cases have been presented to my view within the compass of a few months, have tended more and more to impress me with the conviction of the identity of that disease under all its modifications. Its character, indeed, is greatly varied by the different circumstances in which it occurs; by the age, constitution, and previous health of the patient; by the intensity of the exciting causes; by the situation and season; and by early neglect or mismanagement; but it is not more varied than other febrile diseases, the small-pox, for instance, or scarlet fever, under similar circumstances; and examples of the most distinct modifications which it undergoes, are often observed in individuals of the same family. Thus, in the instance of a man and his wife, who were brought to the House of Recovery together, the former was affected with the mildest symptoms of fever, which scarcely confined him to bed, and terminated in a speedy convalescence; while his wife was lying in a state of stupor, her skin covered with *petechiæ* and *vibices;* in a word, exhibiting the most formidable symptoms of the worst form of typhus. Yet these extreme degrees of the disease manifestly originated from the same cause; and it would be equally unphilosophical to account them different kinds of fever, and give them distinct generic appellations, as in the case of the benign and confluent small-pox, which are generated in like manner from one contagion." p. 22, 23.

"The older writers, under the influence of system and hypothesis, greatly erred in the multiplication of the species and appellations of fever; and Dr Cullen performed a material service to pathology, when he reduced the multitude of names to three genera, under which they were ranked as synonyms. But the propriety of the three genera which that able nosologist established, is very questionable. With respect to the first, *Synocha*, his distinguished successor in the professorial chair above alluded to, Dr James Gregory, asserted, that during thirty years practice he had never seen a purely inflammatory fever unconnected with acute inflammation of some organ; and my own subsequent experience entirely coincides with that assertion. It cannot be doubted, as Dr Gregory remarked, that the *causus*, or ar-

dent fever of the ancients, was the endemial bilious remittent of hotter climates, and that no continued fever of this country assumes that character. This genus, therefore, should be discarded, and in fact occupies no place in the treatises on fever which have lately appeared.

"In constituting the genus typhus, which it is evident from the long list of synonyms comprehends the principal varieties of continued fever, Dr Cullen found, that his definition excluded some of the instances, in which the heat of the skin was augmented, and considerable vigour of pulse occurred, especially at the commencement; and he deemed it necessary to establish another genus, which he arbitrarily called Synochus. But he candidly questions the propriety of this classification, and acknowledges that there is no essential distinction, no line of separation to be drawn between the two; the Synochus being in fact typhus, only somewhat more inflammatory in the beginning. And he thus appears to have fallen into a dilemma, by an attempt to institute an artificial distinction which was inconsistent with the phenomena of the disease. It would have been more consonant with these phenomena, as well as with the principles of classification adopted by natural historians, to have made fever a genus, and marked its varieties; or rather, as typhus has become the popular appellation of the fever of this country, to have extended the definition, so as to include, as Dr Armstrong has done, the inflammatory as well as other varieties of the disease." Bateman, pp. 25—27.

Of the identity of all the forms of continued fever in this country we have long been convinced, and perhaps this is as far as Dr Bateman and Dr Percival* mean to go; but Mr Bonnar, from his own observation, is disposed to consider the fever of Scotland, and of the Mediterranean, as essentially the same, and that their differences depend upon climate.

"In the years 1810, 1811, and 1812, I witnessed a number of cases of the endemic fever, which prevails during the summer months in the Mediterranean, and the good effects of the evacuating plan of treatment, used by the medical men on that station, I could not help taking notice of the great similarity, in the most essential circumstances, betwixt the fever as it prevailed in that quarter, and the late epidemic in Auchtermuchty. In the Mediterranean fever there was, perhaps, a greater severity of symptoms, both in the attack and during its continuance. In general it finished its course sooner, but the patients whom I saw were for the most part stout men, of a plethoric habit of body, and in the prime of life.

"There was one peculiarity in the Mediterranean fever, viz. the universally increased action of the biliary system, thereby occasion-

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* We shall extract some valuable observations from his excellent Report on the Epidemic Fever in Dublin, when we review the Transactions of the Dublin College of Physicians.

ing an increased secretion and accumulation of bile, which being poured out upon the bowels, perhaps caused the severity and frequency of the gastric symptoms which occurred; but that might be explained by the influence of climate, without leading us to disbelieve the identity of the two diseases." Bonnar, pp. 20, 21.

Upon the cure of fever we shall be very short. In every division of the empire the same general method of treatment has been introduced, and the prejudices we imbibed at school have every where yielded to observation and good sense. Different practitioners have their favourite means, which they employ in preference, but they all tend to the same end.

"Whatever differences of opinion may exist, as to the presence or absence of inflammation at the commencement of fever, experience has fully decided, that the occurrence of more or less of inflammatory excitement, general and local, in the course of its subsequent progress, is the chief object of apprehension and the great source of danger, and that the only practicable means of anticipating this event, or of speedily abridging the term of the disease, are such as enable us to subdue other inflammatory disorders." Bateman, p. 92.

We shall conclude with a very few words upon some of the publications, whose titles are placed at the beginning of this article.

The evidence before the Committee of the House of Commons is most valuable. We have incidentally commented upon some points in it; and we cordially concur with its chief object, the recommendation of an extension of the fever institution, though not to the exclusion of fever cases from other hospitals attached to schools, provided they appropriate a ward for fever, or do not admit too many at a time. We also wish that the Committee, if it again take up the subject, would call for reports from all the hospitals and dispensaries of the empire.

Dr Bateman's work we cannot praise in too strong terms. We might have distrusted our own judgment, as influenced by our private partiality towards the author, but we are only repeating the opinion, voluntarily expressed to us, of the individual, whom, from his public situation and good sense, we consider as the most competent judge upon this subject, when we state that it is altogether the best treatise upon our fever which has ever appeared. He treats in succession of the denomination of the fever, its character and varieties, which he reduces to two, the simple and complicated typhus; the method of treatment and of contagion; besides an introductory section, chiefly historical.

Dr Graham gives a very excellent account of the fever as he observed it in the Royal Infirmary of Glasgow. His sections

dent fever of the ancients, was th..., dissection, treatment, origin, ter climates, and that no con... the last head he notices various that character. This genus, ...gow, which have a tendency to keep fact occupies no place in th... out the means of removing or con- peared.

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"In above fifty cases, in which I have used blood-letting, I have not lost one patient, and in none of these did symptoms of disorganization or a vitiated state of the secretions occur to any extent, when I was called before the seventh or eighth day. In a few cases I bled as late as the ninth and tenth day with evident relief; in no case did the debility follow, which I had formerly so much dreaded; indeed, in those cases where there was great oppression of the brain, and an overpowered condition of the animal functions, the loss of blood seemed to gain a great accession of strength to the patient.

"The quantity of blood taken away was neither made to depend on the period of the disease, nor the age, nor habit of body of the patient. I allowed the blood to flow, as I have already stated, till the patient expressed himself relieved, or till sickness came on, and repeated the bleeding till the pain and local congestions were removed. Such was the rule that directed me in all cases: latterly twenty-four and twenty-eight ounces at the first bleeding, in an adult, were very common quantities.

"After the force of the disease was broken, the patients recovered in as short a time as they would have done in pneumonia, had the cases been of as long standing, and the same extent of means used for the removal of the complaints.

"I may mention, however, that relief from pain, &c. did not always follow immediately the abstraction of blood, often not for some hours after; and in those cases where the local affections were severe, a tenderness or an unpleasant feeling of the parts affected re-

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In Dr Duncan junior's reports, there is a selection of fever cases which occurred in the clinical wards under his care, intended to give a faithful and minute picture of the epidemic, in the various forms which it assumed.

Dr Brown reasons upon the observations of others, and comes to conclusions not very favourable to the efficacy of our art; and although we cannot agree generally with the truly worthy author, his opinions are valuable in themselves, and more so when we consider the disappointment which would certainly follow the adoption of the plans of some of our enthusiastic brethren.

The two inaugural dissertations are valuable contributions to the history of the epidemic, and highly creditable to their authors.

MEDICAL INTELLIGENCE.

Cure of foundered Horses by Excision of about two inches of the principal Nerves on each side the Pastern Joint. Extracted from a Letter of a Physician in London, to Dr Duncan, Professor of Medicine, Edinburgh.

This operation has succeeded admirably, and will probably lead to a similar practice in the human subject. It has hitherto failed frequently in the *tic douloureux*, and other diseases, either from the regeneration of the divided nerve producing a union and a restoration of sensation, or from the effect being produced by the swelling of the ends of the cut nerve sufficient to effect the union. But the excision of two inches in length effectually prevents such a restoration of feeling. Mr Sewell, the well-known Assistant Professor at the Veterinary College, who has the exclusive claim to this improvement, in the course of the last 18 months, performed this operation on above 100 horses with uniform success, except perhaps two or three instances, in which there was a very great organical disease of the foot. As on former occasions of splendid discoveries, detraction has circulated a number of misrepresentations, but the best

treat of its history, prognosis, dissection, treatment, origin, and propagation; and under the last head he notices various local circumstances in Glasgow, which have a tendency to keep up the disease, and points out the means of removing or correcting them.

The last subject chiefly occupies the spirited letter of Dr Millar, who censures pretty strongly the inadequacy of the means by which it has been expected to stop the progress of fever in Glasgow, and gives several suggestions worthy of consideration, for the interference of the magistracy and police in ventilating the city and regulating the low lodging-houses, which in Glasgow, as well as in Edinburgh, seem to be the principal centres from which the disease spreads in every direction.

Mr Bonnar describes the epidemic as it occurred in a town in Fife, from the observation of about 70 cases, abstracts of several of which he has given. Blood-letting became, in the course of his experience, his favourite remedy, and his results correspond so nearly with what we have witnessed of its effects, in the Royal Infirmary fever hospital at Queensberry House, that we shall extract them.

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mained for a considerable time afterwards, when there was no affection of the system at large." pp. 28, 29.

Dr Yule has given the only systematic account yet published of the fever as occurring in Edinburgh; and any differences of opinion between us and him arise from his having witnessed it only in private practice. He seems to rely chiefly upon cold and mercury, and considers blood-letting as of doubtful utility, except in a few cases.

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answer is, the work done by the horses since the excision. Although the operation requires the skill of Mr Sewell, it is very simple. It consists in cutting down, upon the trunks of the nerves which enter the foot in contact with the arteries on each side of either the small or large pastern joint, and then removing a piece of the nerve. A few minutes after the operation, the animal walks and trots like a sound horse, who just before could scarcely move at all, and then in extreme pain. The principle is obvious,—it is that of removing the conductors of sensation from the seat of the disease to the brain. The division of the arteries accompanying in the nerves is carefully avoided. The diseases of the foot, in this way cured, are too various to mention. It is adapted for all of them.

Professor Chaussier says, that the urinary bladder is always found very much distended with urine in persons attacked with a deep-seated affection of the brain, (d'une affection cerebrale profonde.)

JOHN PEARSON, Esq., who for forty years has been Surgeon to the Lock Hospital, London, and whose Observations on the use of various substitutes for Mercury in the cure of Syphilis are well known, and which, till very lately, were supposed to have settled the Syphilitic question for ever, has resigned, and is succeeded by PETER MACGREGOR, Esq. of Golden Square.

St George's Medical, Chemical, and Chirurgical School.

The first week of October the courses will commence.

1. On the Practice of Physic, with Laws of the Animal Economy. By GEORGE PEARSON, M. D. F. R. S. Senior Physician of St George's Hospital.

2. On the Science of Chemistry. By W. T. BRANDE, Sec. R. S. and Professor at the R. Inst.

3. On Surgery. By B. C. BRODIE, F. R. S., and Assistant Surgeon to St George's Hospital.

4. On Therapeutics, with Materia Medica. By GEORGE PEARSON, M. D. &c. &c.

5. Sir EVD. HOME, Bart. will deliver Lectures on Surgery gratuitously to the Pupils of St George's Hospital.

Dr CLUTTERBUCK will begin his Autumn Courses of Lectures on the Theory and Practice of Physic, Materia Medica, and Chemistry, on Friday, October 2d, at 10 o'Clock in the Morning. Particulars may be known on Inquiry at his house, No. 1. in the Crescent, New Bridge Street, or at the General Dispensary, Aldersgate Street.

Mr MACKENZIE commences his next course of Lectures on the Diseases and Operative Surgery of the Eye, on Monday, 5th October, at 9 o'Clock morning, at No. 16, Newman Street, Oxford Street.

Lectures on the Theory and Practice of Physic.

Two courses of Lectures on these subjects will be delivered at No 14. Old Burlington Street, during the ensuing winter, at 9 o'clock, A. M. on Mondays, Wednesdays, and Fridays, by GEORGE GREGORY, M. D., and J. G. CLOVES, M. B., of Brazen Nose College, Oxford, Physicians to the St James's and St George's Dispensary.

The First Course will commence early in October, and the second towards the middle of January. The Lectures will be preceded by an Historical View of the Progress of Medical Science. Further particulars may be known by applying at No. 14, Old Burlington Street, any day between the hours of 11 and 1 o'clock.

Dr P. M. LATHAM and Dr SOUTHEY will begin their Lectures upon the Practice of Physic and the Materia Medica, in the First week of October, at the Middlesex Hospital.

Dr DAVIS will commence his Winter Lectures on the Theory and Practice of Midwifery, and on the Diseases of Women and Children, at his house, 29, George Street, Hanover Square, London, on Monday the 5th of October, at half past 10 o'clock in the forenoon; and at Mr Taunton's Theatre, Hatton-Garden, on Tuesday, October the 6th, at 6 o'clock in the Evening.

Dr AYRE of Hull is about to publish Practical Observations on the Nature and Treatment of those disorders which may be strictly denominated Bilious.

Memoirs, Biographical, Critical, and Literary, of the most eminent Physicians and Surgeons of the present time, in the United Kingdom; with a choice collection of their Prescriptions, and a specification of the Diseases for which they were given; forming a complete Modern Extemporaneous Pharmacopœia. To which is added an Appendix, containing an Account of the different Medical Institutions in the Metropolis, Scientific and Charitable.

TO CORRESPONDENTS.

We have received Communications from Drs Abercrombie, Astbury, Hall, Kinnis, Maclean, and Thomson; Messrs P. Cullen, R. L. Drapes, G. F. Edwards, W. W. Fraser, Grieve, Jacob, M'Cabe, and M'Lure; and from Caduhus, Supplex, Philalethes, a Physician in London, G. M. and F.;—and the following Publications have been sent us for Review:

Newnham's Essay on Inversio Uteri.—Dickinson's Remarks on Burns and Scalds.—De Sanctis Lusus Naturæ.—Transactions of College of Physicians of Ireland.—Monro on Small-pox after Vaccination.—Miller's Guide to Botany.—Carlisle on Old Age.—Le Beaume on the Air Pump Vapour-Bath.—Wilson's Letters on Morbid Sympathy.—Speer on the Stomach.—Reid on Tetanus and Hydrophobia.—Burrows on Parish Registers and Bills of Mortality.—Sir W. Adams's Reply to Dr Vetch.—Sir W. Adams's Reply to a recent Publication against Him.—Coindet Memoire sur l'Hydrencephale.—Commentationes Societatis Physico-Medicæ apud Universitatem Literarum Cæsaream Mosquensem instituta. Vol. II. Pars 1ma.—Young on Cancer, Part II.—Mr Macfarlane on the Efficacy of Cow-pox.—Scarpa's Memoir on Congenital Club Feet, translated by Wishart.—Sanson, De Moyens de Parvenir à la Vasie par le Rectum.—Tommassini Della Nuova Dottrina Medica Italiana.—Johnson's Practical Researches in Gout.

NOTICE BY THE EDITORS.

Although we have repeatedly given an additional sheet *with* our numbers, yet we have often been obliged to postpone, longer than we wished, the publication of interesting and valuable communications. By the liberality of our numerous correspondents, our materials are accumulating so fast, that we have resolved to publish, on the present occasion, an additional number on the first of November; and as we trust that the patronage of our friends will continue, we have determined, in future, to increase the size of our numbers to Ten Sheets each, and to raise the price to Four Shillings. We trust that our readers will not disapprove of an alteration, which, at a very moderate expence, enables us to comply more promptly with the wishes of our correspondents, and to present them with a greater variety and extent of information in each number.

No. LVII. price Three Shillings, will be published on the first of November next; and on the first of January 1819, No. LVIII. price Four Shillings, will be published, as the first of a new series, to be continued quarterly.

THE

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PART I.

ORIGINAL COMMUNICATIONS.

I.

RESEARCHES ON THE PATHOLOGY OF THE BRAIN.

PART II.

ON APOPLEXY.

By JOHN ABERCROMBIE, M. D. Fellow of the Royal College of Surgeons of Edinburgh.

THERE is not in medical science a subject involved in greater obscurity than the pathology of Apoplexy. A person, previously in perfect health, falls down suddenly, deprived of sense and motion, and dies after lying for some time in a state of stupor. On opening the head, we find a large coagulum of blood compressing the surface of the brain, or filling its ventricles, and the death of the patient is distinctly accounted for. Another is cut off with the very same symptoms, and we expect to find the same appearances, but nothing is found except serous effusion in no great quantity, in the ventricles, or sometimes only on the surface of the brain. A third is seized in the same manner, and dies after lying a considerable time in a state of coma, from which nothing can rouse him for an instant, and on the most careful examination, we cannot detect in his head the smallest deviation from the healthy structure. The causes of these remarkable varieties present a subject of the deepest

interest, both to the pathologist and the practical physician, but at the same time a subject of extreme difficulty, and requiring to be investigated in the most cautious manner. In attempting a very imperfect outline of it, I shall first give a general view of the varieties of symptoms which occur in Apoplexy, and then endeavour to investigate the morbid conditions connected with these varieties.

The apoplectic attack is generally preceded by symptoms indicating deranged circulation in the brain. The most remarkable of these are the following:—Headach, giddiness, sense of weight and fulness in the head, violent pulsation of the arteries, tinnitus aurium, and confused noises, sometimes compared to a number of people talking at once: these symptoms are often accompanied by epistaxis, which may give a partial and temporary relief; by loss of recollection, and incoherent talking resembling intoxication; affections of the sight, as double vision and temporary blindness; drowsiness and lethargic tendency; indistinct articulation, and other paralytic affections, sometimes confined to one limb or part of a limb, sometimes affecting the eyelids, and producing there either inability to open the eye, or inability to shut it, and frequently the muscles of the face, where it gives rise to twisting of the mouth. These symptoms, together with others of a similar kind, mark the tendency to the apoplectic state. The attack itself occurs under various forms, which I think may be referred to three.

I. In the first form, the patient falls down suddenly, deprived of sense and motion, and lies like a person in a deep sleep; his face generally flushed, his breathing stertorous, his pulse full, and not frequent, sometimes below the natural standard; in some cases convulsions occur. In this state of profound stupor, the patient may die after various intervals, from a few minutes to several days, or he may recover perfectly without any bad consequence of the attack remaining, or he may recover with paralysis of one side. This paralysis may disappear in a few days, or it may subside very gradually, or it may be permanent; other functions, as the speech, may be affected in the same manner; and sometimes recovery from the apoplectic state is accompanied by loss of sight.

II. The second form of the disease begins with a sudden attack of violent pain in the head; the patient becomes pale, sick, and faint, generally vomits, and frequently, though not always, falls down in a state resembling syncope, the face very pale, the pulse very small. This is sometimes accompanied by slight convulsion. In other cases he does not fall down, the sudden attack of pain being only accompanied by slight and transient

loss of recollection. In both cases he recovers in a few minutes,—is quite sensible and able to walk,—continues to complain of intense headach; after a considerable time, perhaps some hours, becomes oppressed, forgetful, and incoherent, and thus gradually sinks into coma, from which he never recovers. In some cases paralysis of one side occurs, but in others, and I think the greater proportion of this class, there is no paralysis.

III. In the third form, the patient is suddenly deprived of the power of one side of the body, and of speech, without stupor; or, if the first attack is accompanied by a degree of stupor, this soon goes off; he appears sensible of his situation, and endeavours to express his feelings by signs. In the farther progress of this form of the disease, great variety occurs; in some cases, it passes gradually into apoplexy, perhaps after a few hours; in others, under the proper treatment, the patient recovers perfectly in a few days. In many cases, the recovery is gradual, and it is only at the end of several weeks or months that the complaint is removed. In another variety, the patient recovers so far as to be able to speak indistinctly, and to walk, dragging his leg by the most painful effort, and after this makes no further improvement. He may continue in this state for years, and die of some other disease, or he may be cut off by a fresh attack. In a fifth variety, the patient neither recovers nor passes into apoplexy; he is confined to bed, speechless and paralytic, but in possession of his other faculties, and dies gradually exhausted, without apoplexy, several weeks or months after the attack.

These three forms of the disease may frequently pass into one another by numerous modifications; but they are often met with as I have here described them, forming affections which differ remarkably from each other. This will appear from the following examples.

Sect. I.—Cases of the first class.

Case I.—Mrs S. a midwife, aged about 70, of a full habit and short stature,—while sitting by the bed of a lady whom she was attending, suddenly exclaimed, "I am gone!" and instantly fell down in a state of perfect coma, with some vomiting. She lay comatose, without any change in the symptoms, for forty hours, and then died. On *dissection* a coagulum of blood, the size of a pigeon's egg, was found in the right lobe of the cerebellum. There was no other morbid appearance.

Case II.—Mr W. aged 80, active, vigorous, temperate, and of rather a spare habit, about the 9th of June 1813, began to be affected with loss of recollection, indistinctness of speech, and flushing of

the face. He appeared to have at times a weakness of the right arm, being observed to drop things from that hand, but he did not admit that he felt any weakness of it. He complained neither of headach nor giddiness, but said he was weak, and did not feel himself right; the pulse was natural, and of good strength. After a bleeding from the arm, purgatives, and a proper regulation of diet, he seemed to be much improved. He had greatly recovered his recollection; had lost the flushing of the face; and his speech was much more distinct. He walked out regularly, and his step was firm and vigorous. Soon after, however, he began to have a recurrence of confusion of thought, particularly on the 27th, when, in endeavouring to write a letter, he was obliged to relinquish the attempt. He complained that he could not make sense of it, or spell the words; the writing was scarcely legible, and the lines were very crooked. On the 28th he seemed much better. On the following night he slept ill; got up about four o'clock in the morning; said he felt restless and uneasy; walked about his room for some time, and then went to bed again. Having soon after become quiet, his family did not disturb him till between eight and nine o'clock, when he was found in a state of perfect apoplexy. His pulse was 80, and full; his countenance natural. He moved occasionally his right arm; in other respects was in a state of complete insensibility, and was incapable of swallowing. He was then bled to about ℥xxx., after which he became extremely pale. For a short time his pulse could not be felt, and it continued for a considerable time very weak, but without the smallest abatement of the perfect coma. Purgatives, glysters, topical-bleeding, blistering, &c. were then employed without effect. In this state of perfect apoplectic coma he lay for seven days, during which time the only changes observed in the symptoms were, that once or twice he opened his eyes slightly for a few seconds; he moved his right arm and leg freely, but not the left; he frequently scratched a herpetic eruption on his thigh, and several times moved his night-cap. The pupil was natural, and contracted when a candle was brought near it. He passed his urine in bed. He never swallowed a drop of any thing. His pulse at first varied from 80 to 100; but afterwards rose to 120. A few days before his death a glandular swelling appeared on his neck, from which he evidently felt pain, as he drew away his head when it was touched. In this state of perfect apoplexy he died on the 5th of February. *Dissection.*—A good deal of fluid escaped while the cranium was opened; there was considerable effusion under the arachnoid coat, and in the ventricles; the quantity collected was probably from three to four ounces. No other morbid appearance could be detected in any part of the cranium.

Case III.—Mr R. aged about 70, rather florid in his countenance, but infirm in his limbs, had suffered repeated attacks of loss of recollection, which were said by his family to resemble fainting-fits. At the commencement of the illness of which he died, he fell down

suddenly deprived of sense and motion. After some time he recovered from this state of insensibility, but his speech was very inarticulate. He had lost the power of his limbs, and his right eye was distorted outwards. He was then confined to bed; at times incoherent, at other times tolerably distinct; but always much oppressed, approaching to coma: his speech very inarticulate, and his right eye distorted as at first; his pulse generally about 100. All the usual remedies were employed without benefit. His strength sunk gradually, without any particular change of the symptoms, and he died exhausted, without perfect coma, at the end of five weeks. On *dissection* the ventricles of the brain were found distended with colourless fluid, and there was a considerable quantity under the arachnoid membrane. There was no other morbid appearance.

Case IV.—J. B. a printer, aged 41, of a very full habit, had been for some time affected with severe cough and dyspnœa, to which he had long been liable, and with anasarca of the legs, when he became one day suddenly incoherent, and soon after comatose. The coma was of that kind out of which he could be roused so as to answer questions, but they were answered slowly and heavily, and often incoherently. His breathing was much oppressed; his face livid and turgid; his pulse frequent, and rather weak. Bloodletting and other remedies were employed without benefit. He died on the third day from the appearance of these symptoms. On *dissection* much fluid was found in the ventricles of the brain; the lungs were much loaded with blood, and there was considerable serous effusion in the cavity of the pleura. In the heart the foramen ovale was open, the size of a goose-quill.

Case V.—Mrs G. aged about 50, of a spare habit, had been liable for many years to severe attacks of dyspnœa and cough, which were generally relieved by opiates and blistering. On the 20th December 1816, she was seized with one of these attacks in the ordinary form. On the 22d was better and able to go about her house, though her breathing was still considerably oppressed. On the morning of the 23d she complained of headach, and wished not to be disturbed. Soon after she appeared to her family to fall asleep, but it was perfect coma, from which nothing could rouse her. I saw her for the first time at 4 P. M.; she was then in perfect coma; her lips livid; her breathing quick and oppressed; her pulse frequent and feeble. She died in less than an hour. *Dissection.*—On the surface of the brain, the veins were remarkably turgid, and the substance, when cut into, exhibited marks of increased vascularity. There was no effusion; the lungs were remarkably distended, and did not collapse in the least when the thorax was opened. A good deal of thin mucus flowed out when they were cut into, but their structure was tolerably healthy. There was no effusion in the pleura. The heart and the viscera of the abdomen were sound.

Case VI.—A gentleman, aged about 24, had been observed for some days to be dull and drowsy, and he had frequently complained of his head. Not appearing at his usual time in the morning, his friends went into his room and found him lying across his bed, half dressed, in a state of perfect apoplexy. The attack was evidently recent, and it was supposed that he had been seized while in washing he had stooped over his basin. His face was rather livid; his breathing stertorous; his pulse slow and of good strength. Blood-letting, purgatives, blistering, and the other usual remedies were employed, under the superintendence of two medical men of the first eminence. Through the day there was no change in the symptoms; in the course of the night he recovered considerably so as to know those about him, and answer questions sensibly; but after a short time he relapsed into coma, and died early on the following day, little more than 24 hours after the attack. I was present at the examination of his body, and on the most careful examination no morbid appearance could be detected in the brain, except slight turgescence of vessels on the surface. All the other viscera were in the most healthy state.

Case VII.—Mr S. aged 80, of a full habit and a short neck, stout and active for his years, and very temperate, had enjoyed good health, except that, a few weeks before his death, he became one day suddenly incoherent. This was removed by purging, and did not return. In the evening of 12th August 1816, he went to bed in his usual health, and next morning was found dead in bed, his body scarcely cold, his face and neck of a purple colour, and very turgid. I examined his body, along with Mr Whyte, whose patient he had been, in the confident expectation of finding a well marked case of apoplexy. On the most minute examination no vestige of disease could be detected in the head. There was a tumour in the liver which could not be supposed to have any connection with the death of the patient. The only other morbid appearance that we could detect was in the heart, all the cavities of which were perfectly empty, as if they had been carefully cleaned with a sponge from every particle of blood. The vena cava and the aorta were also empty.

Case VIII.—A lady, aged 45, for three months before her death, had been affected with the following symptoms: nausea, and a peculiar uneasy feeling about the stomach, particularly after meals—a feeling of distention of the abdomen—costiveness of the bowels, and anasarca of the feet and legs. Her appetite was tolerable; and the pulse natural, but from being remarkably stout and active, she became feeble, sallow, listless, and inactive.

A great variety of practice was employed for three months, with very little benefit; the dropsical symptoms increased gradually; the anasarca extended farther and farther; there came to be fluctuation in the abdomen, and a strong suspicion of effusion in the thorax; the pulse continued natural in frequency, and of good strength. On the evening of the 18th May 1816, she was observed to talk hurriedly, and a

little incoherently; on the morning of the 19th, she was in a state of stupor, from which at first she could be partially roused; but soon after midday it increased to perfect coma. She then lay in an apoplectic state, with stertorous breathing and much moaning; the face pale; the pulse 72, soft, but of good strength, and died on the morning of the 20th. The catamenia had been regular, except at the last period, which should have taken place about the 12th of May. On *dissection* no disease could be detected in the head after the most careful examination. There was very considerable effusion, both in the thorax and abdomen. In the heart there was a slight cartilaginous hardness about the root of the tricuspid valves. No other morbid appearance could be detected in any of the viscera.

Case IX.—A young lady, aged 17,* whose catamenia were not regular, after complaining of drowsiness, fell suddenly into profound coma, with dilated and insensible pupil, and frequent convulsion. She died on the third day. On the most careful examination, no morbid appearance could be detected in the brain, or in any other organ.

Case X.—An old man, aged 70, infirm, and of a spare habit, after being observed dull and stupid for a day or two, lost his recollection on the 10th April 1815; walked very unsteadily, and without knowing whither he was going. Being put to bed, he insisted upon being taken out of it again, and could not be made to comprehend that he was ill. After some time he got up, staggered a few steps, and fell down on the floor in a state of perfect apoplexy. In this state I saw him about half an hour after the attack. His pulse was of good strength, and a little frequent. Being bled to ℥xxv. he became sensible; took purgative medicine; and his head was shaved and blistered. After three hours, he relapsed into coma. He was then bled again to ℥xvi. which he bore well. This bleeding produced no immediate effect; but the purgative having soon after begun to operate, he was gradually relieved; next day was quite sensible; and in a few days recovered his usual health. There was no paralytic symptom in this case.

Case XI.—Mr M. aged about 70, infirm, emaciated, and very asthmatic, while sitting at his desk on Wednesday 19th November 1817, without any warning, fell on the floor speechless, comatose, and violently convulsed. I saw him about an hour after the attack; he was still in perfect coma, and the convulsions recurred at short intervals; they affected chiefly his arms and his face; his face was rather pale; his pulse of good strength and a little frequent.

He was bled to ℥xx.; cold applications were ordered to his head;

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* Transactions of the College of Physicians of London, Vol. V.

a purgative of calomel and jalap, and a purgative injection.

The convulsions continued to recur with much severity for some time; afterwards they became gradually less frequent and less severe; and at last ceased about three hours after the attack. The purgative having operated soon after this, he recovered his recollection. Next day he complained of headach and took more purgative medicine. After a few days more he was in his usual health.

Case XII.—A lady, aged 82, had an apoplectic attack in 1814. On Sunday 8th March 1818, after complaining of headach in the morning, she lost her recollection in church, talked incoherently, and was brought home with difficulty, being unable to stand, incoherent and partially comatose. Being put to bed, she was seized with violent convulsion, which affected chiefly her face and the left side of her body, and her head was violently drawn to the left side. The paroxysms of convulsion were of short duration, but they recurred frequently at uncertain intervals. In the intervals she was in perfect coma, and the left side appeared to be paralytic; the pulse was of good strength, and a little frequent. She was bled to ℥xx.; cold was applied to the head; and purgative medicine was given as soon as she could swallow.

The convulsions continued to recur for four hours; they then ceased after her bowels had been freely moved, but left her in a state of coma.

9th.—Much coma; pulse 112; purgative medicine repeated.

10th.—Coma much diminished; she was restless, and at times unmanageable; no paralysis; pulse as before; slight appearance of convulsion.

Small doses of tartrite of antimony were given with considerable effect in diminishing the restlessness.

11th.—Unmanageable restlessness continued; pulse 110; purgative medicine repeated, and small opiates.

12th.—Considerably improved; began to know her friends; pulse coming down.

In a few days more she recovered her usual health.

Sect. II.—Cases of the second class

Case XIII.—Mrs S. aged about 70, healthy and active, had complained for a day or two of headach, but without being confined, or her health otherwise affected, till the evening of 7th August 1818, when she suddenly screamed out, from violent headach, vomited, and fell down in a state resembling syncope; her face was extremely pale; her pulse scarcely to be felt; and there was some slight appearance of convulsion. She recovered in a few minutes, and went to bed. Through the night she was restless, vomited repeatedly, and three or four times fell into a kind of fainting-fit of a few minutes duration. In some of these she was reported to have made a gurgling noise, in

her throat, and to have shewn some convulsive motions of her arms. In the intervals she was sensible, and complained of her head. About eight o'clock in the morning of the 8th, she sunk into coma. I saw her for the first time at ten; she was then completely insensible; breathing stertorous; face rather pale; pupil contracted; pulse of good strength and a little frequent. Repeated blood-letting, purgative injections, &c. were employed, and in the evening she had so far recovered, that when raised up in bed she took into her hand a glass containing purgative medicine, and drank it. She appeared to attempt to speak, but could not. Soon after she relapsed into coma. Pulse at night 112; there was no paralysis.

9th.—Perfect coma. Died at 4 P. M.

Dissection.—In the anterior lobe of the right hemisphere of the brain there was a cavity containing a mass of coagulated blood, the size of a small hen's egg. From this cavity the blood had burst a passage through the substance of the brain downwards; had spread in all directions under the base of the brain, and upwards, on both sides, under the dura mater, so that portions of it were found on the upper surface, on both sides of the falx. The substance of the brain surrounding the cavity just mentioned, was soft and much broken down. The ventricles were empty, and all the blood-vessels appeared remarkably empty.

Case XIV.—Mr C. aged about 46, of short stature, full flabby habit, and sallow complexion, a literary man, and very sedentary, while speaking in a public meeting, on 28th April 1807, was seized with an uneasy sensation in his head, "as if his head would have burst, or as if the brain had been too big for the skull." This feeling soon went off, and he continued his speech. When he had done he left the room, and felt himself extremely unwell; he had cold shivering, nausea, and repeated vomiting; complained of headach, and faintness; his face was pale, and his pulse feeble. After some time he was able to walk home, where I saw him at 9 P. M., an hour or rather more after the attack. He then complained of violent pain in the right side of his head; it came on in paroxysms, and in the intervals he was much easier; he had nausea, and repeated vomiting; he felt cold and faint; his face was pale and sallow; his pulse weak, and rather frequent; he was quite sensible, but much oppressed, and answered questions very slowly.

He was bled from the arm, and the pulse improving under the bleeding, it was continued to about ℥xxx. but without relief. He became gradually more and more oppressed, and by 11 P. M. had sunk into coma, with stertorous breathing, and complete insensibility. In this state he continued till six o'clock in the following morning, when he died. More blood had been taken from the temporal artery, and the other usual remedies employed, without the smallest benefit. During the last six hours of his life the pulse varied considerably, being at times slow and oppressed, at other times frequent and full, and the transitions from the one state to the other

were very sudden; a short time before death it was strong and frequent: the pupil of the eye had retained the natural appearance, and no paralytic symptom was observed at any period of the disease.

Dissection.—A large quantity of coagulated blood was found spread over the surface of the brain, under the dura mater, in all directions, chiefly in the right side. The origin of it was evidently from the substance of the right hemisphere, from which it had burst outwards by a large ragged opening. This opening communicated with a cavity in the substance of the hemisphere, which also was full of coagulated blood. Large coagula were found under the base of the brain, around the cerebellum, and about the upper part of the spinal cord. In the ventricles there was about ℥i. of serous fluid.

Case XV.—J. G. a hatter, aged 32, of a very full habit, while sitting by the fire in the evening of the 3d September 1804, was suddenly seized with violent headach, followed by vomiting. After a few minutes he began to talk incoherently, and soon after fell down in a state of insensibility, accompanied by slight convulsion. His face was extremely pale, his body cold, and the pulse scarcely to be felt. From this state, resembling syncope, he passed *gradually into* the ordinary apoplectic appearances, and three hours after the attack his breathing was stertorous, the body of natural heat, the pulse 72, and of good strength; the face was still pale, he had frequent vomiting, and was incapable of swallowing, and there had been no diminution of the coma. He now lay in a state of profound coma, and died 29 hours after the attack, without any change in the symptoms, except that, during the last 12 hours, the pulse varied from 100 to 112. Large blood-letting, and the other usual remedies, had been employed without the least effect. On *dissection*, all the ventricles were found distended with coagulated blood, which appeared to have burst into them from an irregular opening in the substance of the brain.

Case XVI.—Mr H. a healthy young man, aged 18, after using rather violent exercise in the forenoon, had returned home before dinner, and was sitting before the fire, when, without any warning, he started up, pushed his chair backwards with violence, exclaimed "Oh my head," and instantly fell on the floor insensible, and slightly convulsed. I saw him within 10 or 15 minutes after the attack. By that time he had recovered his recollection, was sitting in a chair, and was quite distinct. His face was extremely pale, and his whole body cold and shivering; he complained of severe headach, and his pulse was weak, and rather frequent. Blood-letting was immediately employed, his pulse improving under it, and was repeated after a few hours, with the addition of blistering, purgatives, and other usual remedies. The coldness and paleness went off after some time, and he then complained only of severe headach, with a feeling of stiffness of his neck, and a pain extending down the cervical vertebræ; his

pulse was rather frequent, and of good strength. He continued in this state for two days, the pain varying in degree, and frequently he complained most of his neck; his pulse was frequent, 120 or more, and of good strength; the other functions were natural; he was quite distinct; had the use of all his limbs, and could get out of bed with little assistance when necessary, and sit up a considerable time. On the third day he began to be more oppressed, and a little confused and forgetful; the other symptoms as before. On the 4th he sunk very gradually into coma, and died on the 5th. His pulse had continued from 120 to 140; there had been no paralytic symptom. On the 5th day there was repeated convulsion. Repeated blood-letting, purging, &c. had been employed without benefit.

Dissection.—All the ventricles of the brain were completely filled by coagulated blood. On the left side there was a laceration of the substance of the brain, of no great extent. It communicated with the left ventricle, and was also filled by the coagulum. There was no other morbid appearance.

Case XVII.—Mrs S. aged 40, of a spare habit, 15th May 1811, at two o'clock P. M. was suddenly seized with headach, accompanied by vomiting and diarrhœa, and at the same time began to talk incoherently. She continued to talk incoherently for two hours, and then sunk into coma. I saw her at five; she was then in a state of perfect coma; the face pale; the skin rather cold; the breathing soft and natural; the pulse 65, soft and rather weak. During the afternoon she had frequent vomiting, and repeated diarrhœa. No other change took place in the symptoms. A full bleeding was employed, and a blister to the head; she was incapable of swallowing.

16th, 17th, and 18th.—She continued in a state of perfect coma; never opened her eyes, nor shewed the least sensibility, except that she drew away her arm with violence when she was bled, frequently moved her limbs, those of both sides equally, and occasionally turned in bed. The pupil contracted a little when a candle was brought near it, the face was sometimes a little flushed, but generally pale. The pulse was from 70 to 80, and of good strength. No return of the vomiting or diarrhœa after the 15th. Bleedings both general and topical were employed, and purgatives.

On the evening of the 18th, she came out of the coma rather suddenly, like a person awaking from sleep, looked around her, put out her tongue when desired, and took what was offered her; she also talked a little, but incoherently.

19th, 20th.—Much incoherent talking; appeared at times to understand what was said to her, but could give no account of her feelings, only said she was "very bad;" pulse from 70 to 80.

21st, 22d.—Incessant talking and delirium; at times unmanageable, and attempting to get out of bed; at these times the face was flushed,

at other times pale; pulse varying from 90 to 120, weak and irregular; appeared to be blind, but had the perfect use of all her limbs.

23d.—Highly delirious and maniacal.

24th, 25th.—Became calmer and manageable; at times very weak. Pulse small and feeble; skin cold, with a clammy sweat; appeared at times to see and to know those about her.

26th.—Relapsed into coma; lay with her eyelids half shut; eyes distorted outwards. Pulse from 80 to 100, and rather weak; face pale; incapable of swallowing.

27th, 28th.—Perfect coma; pulse about 90.

29th.—Died in the afternoon.

Dissection.—All the ventricles of the brain were full of a dark coloured fluid, like coffee. In the substance of the right hemisphere, there was a cavity containing a coagulum of blood as large as a hen's egg. This cavity communicated with the right ventricle, and the substance of the brain immediately surrounding it was soft, broken down, and nearly purulent. In the left hemisphere, at its upper and posterior part, there was a cavity the size of a large walnut. It contained a dark coloured matter, which appeared to be coagulated blood, but considerably changed in its appearance, being firmer in its texture than recent blood, and of a brownish colour, mixed with portions of a lighter colour, which appeared to be diseased cerebral substance. The substance of the brain surrounding this cavity was very soft, and broken down.

Case XVIII.—Miss B. aged 56, enjoying good health, except occasional disorders of the stomach, on Tuesday, 30th *July 1816*, walked out in perfect health; had gone but a very short distance, when she was seized with violent pain in the head, and giddiness; soon after she lost her recollection, and fell down. She very soon recovered her recollection, and was carried home, being unable to stand. She was then seen by Mr Whyte, who found her pale and faint; the pulse 70, and weak. She was a little incoherent, complained of severe headach, and had repeated vomiting. The vomiting recurred frequently for two days, and then subsided. The severe headach continued a week. During this period, she was generally confined to bed, but was sometimes able to sit up for a short time. Her face was pale; her pulse from 70 to 76, and rather weak. She had some appetite, but bad sleep. She had no paralytic symptom, and made no complaint but of the constant pain of her head, which was always referred to the back of the head. At the end of the week, this pain became much less severe. She then complained chiefly of pain in the back and limbs, and some dysuria; her pulse was as formerly, and her mind entire. In this manner she passed another week, still confined to bed, but towards the end of the week she appeared to be much better. On Tuesday 13th August, exactly a fortnight from the attack, she was suddenly seized with violent pain in the head, chiefly referred to the back part of it. In less than an hour she be-

came comatose, and in three hours more died. The face had still been pale, and the pulse natural.

I did not see this patient during her life, but was present at the examination of the body. In the substance of the anterior lobe of the right hemisphere of the brain, there was a cavity filled by a coagulum of blood the size of a hen's egg. From this cavity a lacerated opening led into the right ventricle, and all the ventricles were completely filled by coagulated blood. A thin stratum of blood was also found under the base of the brain. This blood seemed to have escaped from the ventricles by forcing a passage under the posterior pillars of the fornix. Around the cavity in the right hemisphere, the substance of the brain was broken down, soft and pulpy, almost purulent. Both kidneys were unusually vascular. About the right kidney there was a remarkable turgescence of veins, and an appearance of extravasated blood in the cellular membrane behind it.

Sect. III.—Cases of the third class.

Case XIX.—D. A. aged 58, a very stout man, of a florid complexion, formerly a serjeant, on the 7th March 1817, about nine o'clock in the morning, without any previous complaint, was observed to have lost his speech. I saw him about half-past ten, and found him walking about his room. He had the full use of all his limbs, understood all that was said of him, and answered by signs, but could not articulate a word; could put out his tongue freely; did not admit that he felt any uneasiness in his head; pulse natural, and of good strength; face flushed. Repeated bleeding, purgatives, &c. were employed, without producing any change in the symptoms.

8th.—Was found in the morning to be affected with perfect hemiplegia of the right side; tongue when put out was turned to the right side; no other change; still quite intelligent; no attempt at speech.

He now lay for about a month without any change in the symptoms; slept well in the night; in the day was quite intelligent, and answered by signs. For some time, his tongue, when put out, was turned to the right side, but afterwards it became straight. He took his food, and appeared to have no pain; his pulse was natural. The right side continued completely paralytic, and he made no attempt at speech. About the 10th of May, he began to have violent pain in the paralytic limbs, and could not bear them to be moved in the gentlest way without screaming. Nothing was to be seen about them that could account for the pain. For about a fortnight, he now suffered constant pain; his strength sunk; he lost his appetite. He then had some vomiting, but not urgent; his pulse became feeble, and his features collapsed, and he died in the end of May, of gradual sinking, without coma. There had been no recovery of speech, or of the motion of the right side.

Dissection.—On opening the head, there appeared a remarkable depression on the upper surface of the left hemisphere of the brain,

about two inches in length, and somewhat less in breadth; the dura mater sinking into it, to the depth of about half an inch. On removing the dura mater, the substance of the brain at this place was to a great extent broken down, soft and pulpy; and this appearance extended along nearly the whole upper part of the left hemisphere. Tracing this pulpy mass backwards, it was found to be terminated by a small coagulum of blood, not larger than a small bean. This was situated near the posterior part of the hemisphere, about two inches from the posterior surface, one and a-half from the outer surface, and nearly on a level with the horizontal part of the lateral ventricle. The coagulum was soft, like recent blood. There was no effusion in the ventricles.

Case XX.—Mr F. aged 35, while standing in the street, conversing with another gentleman, suddenly lost his speech; he recovered it after a few minutes, walked home, and made no particular complaint. In the evening of the same day, he suddenly fell from his chair, deprived of speech, and paralytic on the right side, but without coma; being sensible of what was said to him, and answering by signs. He was then confined to bed for several weeks, without any change in the symptoms. At the end of three months, he had recovered so far the motion of his leg, as to be able to walk a little, dragging forward the leg by a motion of the whole right side of his body. He afterwards improved considerably in bodily strength, so that he could walk several miles, but his right thigh and leg continued to be dragged forward by the same kind of effort, without farther improvement. He never recovered any degree of motion of his arm or hand; he could not even move his fingers; his speech was very inarticulate, and his countenance was expressive of great imbecility of mind. In this state he continued without relapse, and without farther improvement, for fifteen years, when he died at the age of fifty. For a month before his death, he had been declining in strength. I saw him about five days before he died, and found him in a state considerably resembling typhus; his pulse frequent, and weak; his tongue very foul, and dry in the middle. He made no complaint. He was not then in bed, but was confined to it next day, and died in four days more, of rapid sinking, without coma.

Dissection.—The membranes adhered firmly to each other, and to the brain, at a spot the size of a shilling, on the upper part of the right hemisphere. There was a large quantity of fluid under the arachnoid membrane, and a considerable quantity in the ventricles. Near the posterior part of the longitudinal sinus, a small part of the sinus appeared to be thickened in its coats, and the inner surface of this part was dark-coloured, and slightly fungous. The cauda equina was of a remarkably dark colour, as if it had been soaked in venous blood, but without any change in the structure. No other morbid appearance could be detected, on the most careful examination, in any part of the brain or spinal cord.

Case XXI.—A man aged about 50, lean and sallow, on Monday 11th May 1818, fell down in the street speechless and paralytic in the right side. When seen several hours after the attack, he was lying with his eyes open, as if he took notice of objects, but did not seem to comprehend what was said to him. He made no attempt to speak. It was the third attack of the same kind, but more severe than any of the preceding. One full bleeding was employed, after which his pulse continued so weak, that there was no encouragement to repeat it. Purgatives were then used, with repeated blistering to the head and neck. He continued without any improvement for ten days; after this he gradually recovered; at the end of three weeks he was able to walk, and is now in perfect health. His mind is entire, and he attends to his business, which is that of a collector of taxes, but has never recovered his speech in the smallest degree.

Case XXII.—A man aged 35, * of a full habit, and intemperate, was suddenly seized with loss of speech, and perfect palsy of the right side. Being bled to ℥xxi. he spoke more distinctly. The bleeding was repeated after two hours, and he took strong purgatives. Next day the motion of the right side was considerably improved, but, becoming more paralytic towards the evening, he was bled again to ℥xviii. Purging was repeated, with blistering on the neck. On the third day, he was again better in the morning, and rather worse at night, and was again bled to ℥xiv. By purging and spare diet, he then mended progressively, and in a few days was free from any paralytic symptom.

Case XXIII.—An old and very poor woman, aged about 70, thin, pale, and withered, having gone out to bring water from one of the public wells, on the morning of the 2d July 1818, fell down in the street speechless, and completely paralytic on the right side. Nothing was done till about 2 P. M. when I saw her. She was oppressed, but not comatose; completely speechless and paralytic; her pulse of good strength, and about 96. She was bled to ℥xv. Purgative medicine was ordered, and cold applications to the head; on the 3d she was considerably improved both in speech and motion, but having become rather worse at night, the bleeding was repeated, and purgative medicine continued. From this time she improved gradually; at the end of a week she was able to walk with a little assistance, and speak pretty distinctly; and by the end of another week she had entirely recovered her former health.

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* Thomson's Annals of Philosophy, August 1816.

Appendix to the Cases.

Extensive Effusion in the Cranium, without Coma.

Case XXIV.—A gentleman, aged about 70,* a man of talent and of genius, had been valetudinary and hypochondriacal for upwards of 30 years, having been affected with a variety of uneasy sensations of the stomach, indigestion, and sense of tightness across the lower part of the belly, and occasional attacks of dysuria. In the beginning of 1817, he became feeble, listless, and unable for any exertion either of body or mind. In the day he was drowsy, but his nights were restless and feverish. His whole attention was now directed to his health, and he used a variety of remedies without benefit. His countenance at this time was pale and sallow; his pulse from 76 to 84; his tongue slightly loaded; his bowels generally costive, but easily moved by medicine, the operation of which was sometimes followed by diarrhœa. Nothing unusual could be detected on examining the abdomen, and the urethra, the prostate gland, and the rectum, in which disease had been suspected, were all found to be healthy. A variety of remedies were employed without benefit. They consisted chiefly of cupping, purgatives, opiates, shower-bath, and warm bath; opiates never failed to produce strangury. He passed the summer without improvement. In the winter his complaints were aggravated. They consisted as formerly of heaviness, feebleness, and want of sleep, to which were now added a troublesome cough, and constant pain at the lower part of the abdomen, with strangury; his appetite failed; his pulse increased in frequency; and he became daily more and more feeble and emaciated. In the beginning of March 1818, he was confined to bed; his strength sunk gradually, and he died on the 14th, having retained his memory and all his faculties entire till within a few hours of his death. He had never complained of headach or giddiness, and never had any paralytic or convulsive affection. His pulse had been uniformly above the natural standard, and regular, except on one or two occasions when it had been observed to intermit slightly.

Dissection.—A copious effusion of transparent fluid was found over the whole surface of the brain under the arachnoid membrane, which in various places, particularly at the posterior part, raised that membrane in the form of small bladders, and separated some of the convolutions from each other, so as to form depressions on the surface of the brain. The ventricles were also filled with fluid, but not much enlarged. The brain was in other respects sound. The viscera of the abdomen were in a natural state. The bladder was contracted and thickened, but there appeared to be no disease of the prostate gland or the urethra.

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* For this important case I am indebted to Mr Turner.

The cases which I have now described have been selected with the view of illustrating the leading varieties of Apoplectic affections. They seem naturally to arrange themselves under the three forms which I have already alluded to.

1. Those cases which are immediately and primarily apoplectic.

2. Those which begin with sudden and violent headach, and pass into coma *gradually.* Those, for the sake of distinction, we may call the comatose cases.

3. Those which are distinguished by palsy and loss of speech without coma.

I.—Of the apoplectic cases.

The apoplectic attack is a sudden deprivation of sense and motion, the patient falling down as in a profound sleep, the face being generally flushed and the breathing stertorous. In tracing the history of such affections, the following circumstances deserve our attention.

1. Many of them are speedily fatal, and we find on dissection extensive extravasation of blood.

2. Many of them recover speedily and perfectly; and in these probably such extravasation did not take place.

3. In many of the fatal cases, we find only serous effusion, often in very small quantity, and having in other cases observed effusion to an equal or greater extent, without apoplexy, we cannot consider the effusion as the cause of the diseas.

4. In many fatal cases, no morbid appearance can be detected on the most careful examination.

Thus the disease again resolves itself into two important divisions, apoplexy with extravasation of blood, and apoplexy without extravasation, and without any morbid appearance, or what may be termed *simple apoplexy.* The latter affection opens a field of investigation, most interesting and important, but, at the same time, one of the most difficult that we meet with in the whole extent of medical science.

It is unnecessary to multiply cases of simple apoplexy, or apoplexy fatal without any morbid appearance. The records of medicine abound with examples of it, and with extensive controversies in regard to its nature and cause. In a remarkable case of it which occurred to Willis, * he supposes, that the ani-

* Willis, De Anima Brutorum, Part II. p. 276.

mal spirits were suddenly extinguished or suffocated by certain malignant or narcotic particles. Seelmatter ascribes it to a sudden relaxation of the nerves, Nicolai to a spasm of the meninges, and Lecat and Weikard to a spasm of the nerves and vessels of the brain. Kortum endeavours to reconcile the discordant opinions of his predecessors, by referring all these cases to a new species of apoplectic affections, which he styles Apoplexia Nervosa. Upon the same principle, other modifications of apoplexy have been contended for, which have been supposed to include these obscure and inexplicable cases, as the apoplexia convulsiva, and apoplexia hysterica of Burserius, Tissot, and other writers. Tissot * mentions a woman who, after complaining for some time of headach, was attacked with great and sudden increase of the pain, accompanied by loss of speech, and died in a short time. On dissection no morbid appearance could be detected. A young woman, mentioned by the same writer, having suffered from a fright during the flow of the menses, the discharge stopped, and she became subject to frequent "lypothymia." After having suffered from this and various other symptoms for several months, she fell into a profound sleep, from which nothing could rouse her: this continued four days, she then came out of it, and appeared to be recovering, when after several days she was seized with severe headach, anxiety and convulsions, and died. No morbid appearance could be detected in any of the viscera. Lecat attaches much importance to a case which occurred to him, in which, after fatal apoplexy, he found no morbid appearance except a small quantity of extravasated blood, not exceeding a tea-spoonful. This, he contends, could not account for the disease upon the principle of pressure, but was to be considered rather as an effect than a cause; an effect of the spasm of the vessels which he conceived to be the proximate cause of apoplexy. This explanation did not satisfy his contemporaries, and various doctrines were brought forward to account for this form of the disease. Some maintained that the medullary substance of the brain is much more susceptible of compression than the cineritious; but the prevailing opinion was, that there are certain parts of the brain, where, by retarding the course of the animal spirits, slight causes of compression are capable of producing the most urgent symptoms. Hence arose a new and extensive controversy respecting the origin and progress of these animal spirits, and the course by which they make their exit from the brain. This

* Tissot, Epist. Med. Var. p. 80.

important function was by one assigned to the aqueduct of Silvius, by another to the fourth ventricle, by a third to the infundibulum, by a fourth to the choroid plexus and straight sinus; and fatal apoplexy was supposed to be produced by very slight causes existing at these particular parts, and even by causes so minute as altogether to elude observation. To these ingenious speculations we cannot assign a much higher place than to the ethers and vortices of the old philosophy, but the number and variety of them admit of this conclusion, that it has been matter of extensive observation, that apoplexy is in many cases fatal without any morbid appearance, and in others with appearances so slight as to be altogether inadequate to account for the disease.

The speculations to which I have now referred have been succeeded by the doctrine of increased determination of blood to the head, but I think it may be doubted whether this expression will bear examination, or whether it conveys any precise principle. The blood being propelled in every direction by an impulse primarily derived from the heart, it is not easy to conceive how, in the natural state of the parts, it should be propelled to the head with greater force, or in greater relative quantity than to any other part of the body. Any interruption to the passage of the blood in the descending aorta, might, indeed, give rise to an undue pressure upon the carotid and subclavian arteries, and if an artery be enlarged from whatever cause, the quantity of blood contained in it must be increased, but these principles, the effect of which we see in the enlargement of anastomosing branches, when a principal artery has been tied, have nothing to do with the doctrine of apoplexy. The brain, indeed, from its extreme delicacy, may be more likely than other organs to be affected by a general increase of the quantity of blood, or a general increase of its impetus, but I know no principle on which we can suppose, that, in the natural state of the vessels, the blood can be sent with greater impetus, or in greater quantity into the carotid, than into the subclavian, or any other great artery. To these considerations we must add the important fact, that the apoplectic attack often takes place with symptoms opposite to those that would accompany determination to the head, did such a state really exist, the face being in many cases pale and the pulse feeble. Upon all these grounds, I think we must admit that the doctrine of determination to the head is not supported by the principles of pathology, and does not accord with the phenomena of apoplexy.

The most simple illustration of the apoplectic state is derived from those cases in which it is distinctly traced to an external

cause. A boy mentioned by Zitzilius had drawn his neckcloth remarkably tight, and was whipping his top, stooping and rising alternately, when, after a short time, he fell down apoplectic. The neckcloth being unloosed, and blood being drawn from the jugular vein, he speedily recovered. * Kortum mentions a Swedish officer, who, to make his men look well in the face, obliged them to wear their collars very tight; the consequence was, that, in a few years, half the regiment died of apoplexy. † Strangulation, when the neck is not dislocated, seems to be simply apoplexy. A man, brought after execution to Sauvages, was recovered by three bleedings, sat up and talked, his breathing and deglutition being natural. After a short time, the part of his neck where the cord had been applied began to swell, so as evidently to impede the circulation in the veins of the neck; he became drowsy, his pulse and respiration slow, without dyspnœa, and in a few hours he died apoplectic. ‡ A woman mentioned by Wepfer, recovered after execution under the same treatment. After her recovery, she was for some time affected with vertigo, which subsided gradually. §

The apoplectic state, as it occurred in these examples, could neither depend on increased quantity of blood, nor increase of its impulse, but simply upon *interrupted circulation*, and this principle, I think, will be found to accord with all the phenomena of simple apoplexy. By the term interruption, I here mean such a derangement of the circulation in the head, that more blood enters by the arteries than can be transmitted by the veins. Such derangement, it is evident, may take place from various causes. It may either depend upon a condition of the arteries connected with general plethora of the system, in which more than the usual quantity of blood is carried into the head, or upon causes impeding the return by the veins, the quantity entering by the arteries remaining unchanged. The whole phenomena of apoplexy do, accordingly, bear evidence, that the disease does not depend upon one peculiar morbid action, but upon a variety of causes, agreeing with each other only in their final influence upon the functions of the brain. What affections, for example, can be more apparently different, than apoplexy affecting a man in the vigour of life, full, flushed and plethoric, accusotmed to high living and intemperance, and apoplexy affecting an old woman, thin, pale, and withered, exhausted by la-

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* Act. Acad. Scienc. Sueciv. An. 1757.
† *Kortum*, de Apoplexia Nervosa, p. 20.
‡ *Sauvages*, Nosolog. Method. Vol. I. p. 679.
§ *Wepfer*, Histor. Apoplecticorum, p. 167.

bour, poverty, and wretchedness? We cannot easily believe that the state of the vessels is the same in these two cases, but the symptoms may be similar; they may both recover under similar treatment,* and if they should be fatal, we perhaps can detect no difference in the morbid appearances. They must therefore agree in some leading principle, and this I conceive to be the interrupted or deranged circulation to which I have alluded. If we investigate the nature of this condition of the vessels of the brain, I think we shall find reason to believe that it may arise from various and very different causes, but that when it has been induced, its effects upon the brain are nearly the same, and that they may frequently be obviated by similar treatment. The causes of this interrupted circulation I think may be referred to the following heads:

I.—*Derangement of the relation betwixt the Arteries and Veins of the Brain, in connection with a general state of Plethora.*

To illustrate the doctrine which I propose under this head, I state a case which is entirely hypothetical. Suppose an artery and a vein running side by side in a non-elastic canal, which they exactly fill; it is probable, that the circulation in the vein will be very much affected by the condition of the artery. While the quantity of blood in the artery is in the natural and healthy state, the circulation will go in a healthy manner. But if, in connection with a plethoric state of the system, the quantity of blood in the artery be much increased, the first effect will be a certain enlargement of the artery, or increase of its area, especially during the contraction of the heart. If the vein increased in the same ratio, the circulation would still go on without interruption, but the canal in which the vessels run, and which they exactly fill, is, by the supposition, unyielding, consequently the vein cannot be enlarged; on the contrary, the immediate effect of the enlargement of the artery will be a certain compression of the vein, and a certain interruption of its circulation. This interruption, indeed, will only take place during the contraction of the heart, and consequent dilatation of the artery; when the artery contracts, it will be removed; but hence will arise an unnatural state of the circulation, which will very much affect the functions of the organ in which it occurs. The degree of it will vary in different cases, according to the extent of the cause on which it depends, and it is easy to conceive it ex-

* See cases 22d and 23d.

isting in such a degree, that the natural state of the circulation is entirely suspended, or, in other words, in such a degree, that more blood enters by the artery than can be transmitted by the vein. In this hypothetical case, I have supposed that the artery and vein exactly fill an unyielding canal, which, when the artery is enlarged by plethora, prevents a corresponding enlargement of the vein. The case will not be altered, if we suppose that they run in a cavity which they do not fill, but the remainder of which is exactly filled by an inelastic substance. Now this, I conceive, is no hypothetical case, but the precise condition of the blood-vessels of the brain. These vessels are inclosed in a cavity formed by the bones of the cranium, and the remainder of the cavity is exactly filled by an inelastic substance, the brain. They cannot, therefore, admit of much increase of the quantity of blood which enters them, without deranging the circulation in the manner which I have supposed. If the arteries are enlarged by plethora, the veins are prevented from a corresponding enlargement, hence a certain derangement of the circulation, producing, I imagine, the headach, throbbing, giddiness, tinnitus, and other analogous symptoms, which mark the tendency to apoplexy. From increase of the same cause, or the addition of some incidental one, as an occasional increase of the impetus of the blood, the interruption at last reaches that point, at which more blood enters by the arteries than can be transmitted by the veins—then occurs the paroxysm of simple apoplexy. It is accompanied by flushing of the face, turgidity of the features, and throbbing of the arteries about the neck and the temples: for the blood, impeded in the internal carotid, passes off with increased impetus by the branches of the external. Upon the same principle, when a great artery has been tied, the part betwixt the ligature and the heart appears to pulsate with increased violence, the collateral branches may be seen to beat with additional force, and the blood is transmitted by them in increased quantity.

That in the ordinary cases of apoplexy, there is an increased flow of blood into the branches of the external carotid, is probable from many circumstances. The unusual quantity of blood which flows from the integuments in opening the head in such cases, has been taken notice of by many writers, particularly by Morgagni and Dr Cheyne. In some of Dr Cheyne's cases, he collected about lb. i. in this manner. Mr John Bell somewhere mentions, that having injected the head of a man who died of an affection of the brain, for the purpose of making a cast, he found the features so distorted by the injection, the lips so protruded, and all the superficial vessels so

swelled, as to make the preparation useless. Now, I venture to state from what I have observed, that this determination of blood to the surface of the head may be found in a very high degree in many cases, in which no corresponding deviation from the healthy state can be observed in the vessels of the brain; * and this seems to afford considerable probability to the doctrine which I have proposed, that these appearances of the external parts are not the result of general determination of blood to the head, but of a particular determination into the external carotid, in consequence of a certain interruption of the circulation in the internal.

If the circulation in the internal carotid were interrupted in the manner which I here suppose, we have the strongest ground from analogy for believing, that such consequences would immediately follow; and there are circumstances which give considerable probability to the conjecture, that such interruption really occurs in the apoplectic attack. I shall only at present mention a singular fact, which is related by Sir Everard Home. In a fatal case of apoplexy, he found the internal carotid of the right side "filled by a solid coagulum of blood, which extended some way into the smaller branches." †

The peculiar situation of the blood-vessels of the brain which I have supposed under this article, lies at the root of the whole pathology of apoplexy. It is such as cannot occur in any other organ, because there is no other organ like the brain closely confined in a cavity of bone; and I think, if the necessary effects of this be carefully considered, it will afford considerable probability to the doctrine which I have proposed, respecting the derangement of the circulation of the brain.

II.—*Causes which directly diminish the capacity of the Venous System of the Brain, or any part of it.*

If any considerable quantity of blood (say ℥iv.) has been extravasated on the surface of the brain, as in a case of injury of the head, coma is produced, and this is called compression of the brain. But in what manner does this compression operate? We have no reason to suppose that the brain itself is capable of being compressed into a smaller compass, so as to make room for this extraneous mass. Something, however, must have yielded to make way for it, and this is most likely to be the vascular system of the brain. Less blood by ℥iv. will therefore

* See Case VII. † Philosophical Transactions for 1814, page 478.

be now contained in the vessels of the brain, than was contained in them before the injury. If this diminution of quantity affected the arteries and veins equally, it probably would produce no urgent symptoms. But the quantity entering by the arteries is undiminished, or diminished only by the very trifling ratio which the quantity extravasated bears to the whole blood of the body, consequently the compression will chiefly or entirely act upon the veins. From the smaller impetus of the blood in them, they are less capable than the arteries of resisting its effects, and from the situation of great part of them on the surface of the brain, they are more immediately exposed to it. Hence will arise a derangement of the circulation analogous to that which I have supposed under the former article, more blood entering by the arteries than can be transmitted by the veins—the consequence is coma, or simple apoplexy. When the compressing cause (whether extravasated blood, or depressed bone) is removed, the circulation recovers its healthy state, and the coma disappears. Upon the same principle, when a part of the cranium has been destroyed, leaving a portion of the brain covered only by the integuments, pressure upon the part is apt to induce a state of coma, which disappears when the pressure is removed. Many cases of this kind are on record, one particularly by Haller, of a man who exhibited himself in Paris for money.

A cause of this kind may exist in a smaller degree, so as in general to occasion only the lesser derangements of circulation, but in this state, apoplectic attacks, often of a slight kind, may be induced by various occasional causes, affecting the circulation of the brain, such as bodily exertion, stooping, stimulating liquors, &c. In a former paper, I have described a case in which a tumour formed by thickening of the dura mater, occupied a considerable space upon the surface of the brain. The patient was liable to giddiness, and slight apoplectic affections, and at last was seized with complete hemiplegia, and fatal apoplexy. * Facts are wanting on this important subject. It remains to be investigated what diseases the veins of the brain are liable to, which may operate in this manner as a cause of apoplexy. Many cases are on record, in which, after long continued diseases of the brain, the only morbid appearance to be detected was a thickened state of the membranes at particular parts. Whether this thickening could have affected the veins, or whether the veins themselves could have been affected by the chronic inflammation which produced this thickening of the membranes, is at

* Edin. Med. Journal, Vol. XIV. page 291.

present only matter of conjecture. It is worthy of investigation, how far such a cause, as I suppose under this head, may be connected with apoplectic attacks of a slighter kind, occurring very frequently. Cases are observed in which a person suffers, in the course of a few years, fifteen or twenty attacks, and in the intervals experiences little or no bad effect from them. It is probable, that such cases must be different in their nature from the common form of apoplexy. A gentleman mentioned by Lancisius, who had long suffered from hemicrania, was seized, about the age of 50, with an intense pain in the temple, and soon after had an attack of apoplexy, from which he soon recovered. From this time he had an apoplectic attack once or twice every month. This went on through the following autumn and winter, and he at last died suddenly in one of the attacks. Under the right side of the os frontis, the membranes were much thickened, and connected with the thickened portion, there was a sort of polypus on the surface of the brain. * In a case of this kind, it is probable, that after evacuations, while the quantity of blood continues in a reduced state, the circulation in the brain goes on without interruption, but that, as the quantity again increases, the tendency returns to that interruption which produces the apoplectic state, and that the attack may also be induced by various causes, which occasion a temporary increase of the impetus of the circulation. In some of the cases, it is probable that this interruption is of so temporary a kind, that it ceases as soon as the increased impetus of blood has subsided—in others, it is more serious, and of longer continuance, and at last, from causes which elude our observation, is fatal

III.—*Diseases of the Sinuses, impeding the passage of the Blood from the Veins, or diminishing the area of the Sinuses at particular parts.*

The diseases of the sinuses present a most interesting field of investigation, in which hitherto very little has been done. Willis thought he observed such thickening of the dura mater about the sinuses, as appeared to him to impede the passage of the blood into them from the veins. In this paper, I have described an old case of hemiplegia, in which the longitudinal sinus appeared to be diminished in its area at a particular part; and in a former paper, I have described a remarkable disease of the lateral sinus, in which it had evidently transmitted no blood for

* Lancisius de Subitaneis Mortibus, cap. xi.

some time.* This case ascertains the existence of such disease, and I think it probable, that accurate observation may disclose important facts in regard to the diseases of the sinuses, which may throw much light upon many affections of the brain. Is it objected, that in the case in my former paper, to which I have now referred, apoplexy did not take place? I answer, that there was a degree of stupor bordering upon it, and that the large and repeated blood-letting probably prevented perfect coma. For in such disease of the sinus, it is probable, that the circulation will be more likely to go on in a healthy manner when the quantity of blood in the body has been considerably reduced. If the disease exists in a more chronic form, the safety of the patient will depend on keeping the blood extremely moderate, both in quantity and impetus, and any considerable increase of either will be likely to give rise to the interruption which I suppose to constitute apoplexy. On the same principle, when any contraction exists in the openings of the heart, the safety of the patient depends upon the quantity of blood being kept extremely low, and any increase of its quantity, or increase of its impetus, lead to those frightful paroxysms of dyspnœa which occur in such affections.

IV.—*Interruption of the Circulation in the Veins of the Neck.*

I have already mentioned some examples of apoplexy, induced by causes of this kind. Tumours on the neck have been known to have the same effect, a remarkable example of which is related by Mr John Bell.†

V.—*Disease of the Lungs and of the Heart.*

The effect of respiration upon the functions of the brain is well known, and it is extremely probable that a certain interruption in the circulation of the brain takes place during expiration. In a young child, whose breathing was much oppressed, I lately saw distinctly the fontanelle elevated during expiration, and collapsed during inspiration. A girl aged 13, whose case is related by Mr Jamieson, had lost a considerable portion of the cranium in consequence of an extensive fracture, but the wound healed favourably, and the integuments were completely cicatrized. After seven months, she was seized with hooping-cough,

* Edin. Med. Journal, Vol. XIV. page 288.
† Bell's Principles of Surgery, Vol. II. page 556.

and in one of the fits of coughing the cicatrix was burst open, and a considerable portion of the brain forced out through the opening. She died paralytic and comatose after five days. * A boy mentioned by Hildanus took a bet that he would sneeze a hundred times, and did so by tickling his nose with a feather; he was immediately seized with violent headach, and dimness of sight, which were relieved by cupping, and a seton in the neck. †

The brain is obviously affected by disorders of breathing, and by particular exertions of the organs of respiration, as in blowing wind instruments: and apoplectic attacks have frequently been traced to this cause. In case 5th I have described an example of an old affection of breathing terminating by simple apoplexy, and another in case 4th, terminating by apoplexy with serous effusion. Wepfer mentions a gentleman long subject to difficult breathing, who became suddenly speechless, and fell down in apoplexy, which was soon fatal. No disease could be detected in the brain, the only morbid appearance was in the lungs. ‡ Lancisius relates several examples in which affections of the lungs and of the heart were fatal by apoplexy, and in which no morbid appearance could be detected in the brain. § A gentleman whom I attended for many years was liable to frequent paroxysms, which sometimes resembled epilepsy, but frequently amounted to perfect apoplexy. They attacked him in the night, and for several years before his death he was seldom a night free from them; frequently they occurred several times in a night. After being many times relieved by bloodletting, and the other usual remedies, he at length died apoplectic. On examining the body, the only morbid appearance was extensive ossification of the heart; not a vestige of disease could be detected in the brain He had for a long time a very irregular pulse, but never complained of any symptom in the thorax. Facts are wanting on this interesting subject. It is probable that when the disease is in the right side of the heart, the effect of the interrupted circulation may be likely to fall upon the brain, and that when it is in the left side, it will more probably affect the lungs.

There is reason to believe that certain apoplectic affections are connected with a disease of the heart, the nature of which is

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* Edinburgh Medical Essays and Observations, Vol. II. p. 217.
† Hildani Opera, Obs. XXIV.
‡ Wepfer, Historia Apoplecticorum, p. 619.
§ Lancisius de Subitaneis Mortibus, p. 52.

extremely obscure. In a case described by Dr Cheyne, * the attack commenced with a severe pain striking from the scrobiculus cordis to the back; it was accompanied by headach, and soon followed by convulsion and coma. There had been for several days before the attack œdema of the legs. Large and repeated blood-letting was employed, and the coma subsided after 24 hours. Hemiplegia remained, which went off gradually in seven or eight days, and the œdema disappeared along with it. I have described a singular case (case 7th) which had very much the appearance of apoplexy, but in which the only morbid appearance was a remarkable emptyness of the heart and great vessels. This condition of the heart presents a subject of much obscurity. It has been observed as the only morbid appearance in many cases of sudden death, some of which resembled syncope, and others apoplexy. Several examples of it are described by Mr Chevalier,† in one of which, in particular, he proceeded to the examination, "fully prepossessed with the persuasion that the patient had died of apoplexy." On the most careful examination, however, nothing could be detected in the brain. The only morbid appearance was this complete emptyness of the heart, and it extended into the vena cava, to the distance of several inches from the heart. Two cases described by Mr Wood in the same paper, which recovered, are considered by Mr Chevalier as examples of the same affection. In one of them the patient was suddenly seized with extreme faintness and loss of muscular power, his speech was indistinct, and his pulse scarcely to be felt, but his face was suffused with blood; he had difficult breathing, and great anxiety. In the other case, which was more severe, the pulse was only 29 in the minute, and very feeble, while the vessels of the skin and of the tunica adnata were loaded with blood. Both these cases seemed to be relieved by stimulants and opium; in the last, the symptoms continued nearly a whole day. A woman mentioned by Bonetus was suddenly seized with headach, dimness of sight, and ringing in the ears; she lost her voice, and died in four hours. The lungs were considerably diseased; the only other remarkable appearance was, that there was not a drop of blood in the heart or great vessels, but the head was not examined.‡ That these cases are not of the nature of syncope, appears from

* Cheyne on Comatose Diseases, p. 87.
† Medico-Chirurgical Transactions, Vol. I.
‡ Boneti, Sepulchretum Anatomicum. Vol. I. p. 883.

the suffusion of the countenance, which in some of them was very remarkable. Several of them bear a strong resemblance to apoplexy, but the nature of them is very obscure.

VI.—*The Circulation in the Brain may be interrupted by diminution of the impulse of Blood entering the Head, as in Syncope and Disorders of extreme exhaustion.*

This is an interruption of a very different kind from that which I suppose to take place in apoplexy, but there are circumstances connected with it which throw considerable light on the pathology of the brain. There is a remarkable resemblance betwixt the symptoms which occur in such cases, and many of the symptoms connected with apoplexy, and this resemblance appears to give considerable probability to the doctrine which I have proposed, that apoplexy does not depend upon pressure or determination, but simply upon interrupted circulation. What is syncope, but an abolition of sense and motion? It is preceded by giddiness, tinnitus aurium, confusion of thought, loss of recollection, and failure of sight, and every surgeon has seen the syncope after blood-letting pass into violent convulsion. In what, then, does syncope differ in its symptoms from apoplexy? only in the state of the general circulation, which in the one is much weakened or nearly suspended, and in the other is in full vigour. Now, in relation to the brain, what principle can we find which is common to these two opposite conditions, but that of interrupted circulation? The interruption, indeed, in the two cases, proceeds from very different causes, but still the interruption is the only principle in which they agree. It is farther extremely probable that, by diminution of the quantity of blood or diminution of its impulse, the circulation in the brain will be more impeded than in any other part of the body. In other parts, where the vessels are exposed to the pressure of muscles, and to the general pressure of the atmosphere, they will contract and accommodate themselves to the diminished quantity of blood, and thus the circulation will go on with little interruption. But the brain being closely covered from atmospheric pressure by the bones of the cranium, such contraction cannot take place so readily, and probably only in a very limited degree. Hence the circulation in the brain will be more easily interrupted by evacuations than in other parts. Syncope, accordingly, is one of the first effects of hæmorrhagy; and in the end of diseases of exhaustion, patients frequently fall into a state resembling coma a considerable time before death, and

while the pulse can still be felt distinctly. I have many times seen children lie for a day or two in this kind of stupor, and recover by wine and nourishment. It is often scarcely to be distinguished from the proper coma which accompanies affections of the brain, It attacks them after some continuance of exhausting diseases, such as tedious and neglected diarrhœa; the patients lie in a state of insensibility, the pupils dilated, the eyes open and insensible, the face pale and the pulse feeble. It may continue for a day or two, and terminate favourably, or it may be fatal. This affection is the only disease that I have observed, which corresponds with the "apoplexia ex inanitione" of the older writers. It differs from syncope in coming on gradually, and in continuing a considerable time, perhaps a day or two; and it is not like syncope induced by sudden and temporary causes, such as hæmorrhagy, but by causes of gradual exhaustion going on for some time. It differs from mere exhaustion in the total abolition of sense and motion, while the pulse can be felt distinctly, and is in some of the cases of tolerable strength. I have seen in adults an affection approaching to this, and from the same cause. A man considerably advanced in life, from a neglected diarrhœa fell into a state very much resembling coma; his face pale and collapsed, but his pulse of tolerable strength. An elderly lady, from the same cause, had loss of memory and squinting. Both these cases recovered by wine and opiates. In the former, blistering on the neck was also employed. Richter states that amaurosis has been occasioned by hæmorrhage, cholera, and tedious diarrhœa, and mentions particularly a dropsical woman who became blind when the fluid was evacuated from her abdomen by tapping. On this curious and interesting subject I shall only at present add the following remarkable illustration from an affection of hearing. A gentleman about 30 years of age came to Edinburgh from a distance for advice in regard to an obscure affection, referred chiefly to the stomach, which had reduced him to a state of extreme weakness and emaciation. As the debility had advanced he had become considerably deaf, and when I saw him he was affected in the following manner: He was deaf while sitting erect or standing, but when he lay horizontally with his head very low, he heard perfectly. If, when standing, he stooped forward, so as to produce flushing of the face, his hearing was perfect, and upon raising himself again into the erect posture, he continued to hear distinctly as long as the flushing continued; as that went off the deafness returned. Upon the whole, it seems probable, that a certain state of the circulation in the brain is necessary for the healthy

discharge of its functions; that they are equally impeded by the interruption which takes place in apoplexy, and the diminished impulse which occurs in syncope; and that there is a remarkable similarity in the symptoms which occur in these two opposite conditions. In what manner these disorders of circulation affect the nervous system, and cut off all intercourse betwixt the external world and that mysterious part of our being which thinks and wills, and reasons, is a point in the arrangements of the Almighty Creator, which must ever elude our most eager researches. The pathologist, like the inquirer in every other department of science, "tantum facit et intelligit, quantum de naturæ ordine observaverit, nec amplius scit aut potest."

The state of simple apoplexy, in whatever manner it has been induced, may be fatal without producing any evident change in the organization of the brain, or leaving any morbid appearance that can be detected on the most careful examination. In what manner this takes place we know not, and never can know, but the fact is fully ascertained. In other cases, however, it does produce certain obvious appearances, such as take place from interrupted circulation in other parts of the body. The effects of such interruption are most familiar to us in the lungs. When from diseases of the heart, or of the lungs themselves, the circulation is there obstructed, either permanently or in paroxysms, two effects of the obstruction are familiar to us, extravasation of blood, or hæmoptysis, and serous effusion, or hydrothorax. In this manner we have every reason to believe, that the obstruction connected with simple apoplexy may give rise to extravasation, and to serous effusion. This, I imagine, may be the source of the extravasation of blood in those cases, in which it is in so very small a quantity as to be inadequate to account for the disease upon the principle of pressure. I shall afterwards have occasion to allude to another class of cases, accompanied by extravasation in large quantity, which are quite distinct from these in their nature, and I think differ from them also remarkably in their symptoms. I do not, however, mean to say, that in the former case the extravasation is necessarily in small quantity, for a large vessel may give way in consequence of the obstruction, but that the quantity is very often so small as renders it extremely probable that it is the effect rather than the cause of the disease; and that it may be so, is supported by analogy derived from the affections of the lungs to which I have alluded.

That serous effusion is produced by obstructed circulation, the arteries of a part conveying the blood to it freely, while

there is some obstruction to its return by the veins, is familiar to us in every part of the body. We see it in the œdema produced by a tight bandage, by enlarged glands, by diseased ovaria, and by the pressure of the gravid uterus. We see it in ascites produced by induration of the liver, and in general dropsy produced by diseases of the lungs and of the heart. It it extremely probable that it should also be an effect of obstructed circulation in the brain, and this, I imagine, is the source of it in those cases which are from the first apoplectic. I have formerly described another class of these affections, in which serous effusion in the brain is connected with chronic inflammation. The two cases are easily distinguished from each other; the one beginning with inflammatory, the other with apoplectic symptoms.

These observations lead me to the consideration of SEROUS APOPLEXY. Much has been written on this subject, and much attention has been bestowed on the symptoms by which it may be distinguished from the sanguineous. The latter is said to be marked by flushed face and strong pulse, and by occurring in persons in the vigour of life; the former by paleness of the countenance, weakness of the pulse, and by affecting the aged and infirm. Much importance has been attached to this distinction upon the ground that the practice which is proper and necessary in the one, would in the other be useless or injurious. On this doctrine I submit the following observations.

I.—*The Distinction betwixt the Symptoms of Sanguineous and Serous Apoplexy has no foundation in Experience or Observation*, many cases which are accompanied by pale face and feeble pulse, being found to be purely sanguineous, and serous effusion being the only morbid appearance in others, in which there occurred all the symptoms which are considered as indicating sanguineous apoplexy. It is unnecessary to enter into any detailed proof of this statement, the accuracy of which is familiar to every one who has cultivated the study of morbid anatomy. I have described several cases, accompanied by extensive extravasation of blood, in which there occurred paleness of the countenance, weakness of the pulse, and coldness of the whole body; and others, in which there was only serous effusion, though the symptoms had been those assigned to sanguineous apoplexy. Portal has described a series of cases which afford the same result. Of three which presented all the symptoms of serous apoplexy, one was saved by repeated

blood-letting, and in the other two which were fatal there was found extensive extravasation of blood.* On the other hand, Morgagni has described cases which exhibited the symptoms of sanguineous apoplexy, but in which he found only serous effusion. Case 8th of this paper forms a remarkable addition to all these observations. If any case could be confidently considered as serous apoplexy, this was such. Dropsical effusion had existed in the body for months; in defiance of every remedy it had been progressively gaining ground. There were symptoms indicating its existence, both in the thorax and the abdomen; the patient then became comatose and died; but though dropsy was found in the other cavities, no disease could be detected in the brain. If, therefore, there really exists such a distinction as sanguineous and serous apoplexy, we know no symptom by which they can be distinguished.

II.—*I object to the term* Serous Apoplexy *entirely, and I think it extremely doubtful whether there really exists such a disease.* If by serous apoplexy we mean to express simply an apoplectic disease in which on dissection we find serous effusion, we express a fact, and the name is harmless. But if we mean a disease in which serous effusion takes place immediately, so as to be the direct cause of the apoplexy, we express not a fact but a doctrine, and a doctrine which is extremely doubtful. In regard to it the following considerations are worthy of attention. (1.) In other parts of the body, serous effusion is seldom or never a primary disease. In the abdomen we trace it to peritonæal inflammation, or organic disease obstructing the venous circulation; in the thorax we trace it to pneumonic inflammation, or to other diseases of the lungs and of the heart. In the brain it is in many cases distinctly traced to inflammatory action, and it is *probable* that there also it may arise from obstructed circulation. In neither the thorax nor the abdomen do we meet with it as a primary disease, and it is *not probable* that it should occur as a primary disease in the brain. (2.) In other parts of the body serous effusion takes place slowly, and does not accumulate at once in such quantity as to induce urgent symptoms. It is therefore not probable that it should accumulate in the brain with such rapidity as to produce the symptoms of an apoplectic attack. (3.) The quantity of effused

* Portal, Mémoires sur Plusieurs Maladies, Vol. I. p. 280; and Vol. II. p. 216.

fluid bears no proportion to the degree of the apoplectic symptoms We often find it in small quantity when the apoplectic symptoms have been strongly marked and long continued. We find it in large quantity when the symptoms have been much slighter. We find it in very considerable quantity when there have been no apoplectic symptoms at all. Several examples of this I have referred to in a former paper; in one of which ℥viij. were found in the brain without apoplexy; and in Mr Turner's case, in this paper, there was extensive effusion, both on the surface of the brain and in the ventricles, without any apoplectic symptoms. Finally, we observe all the symptoms strongly marked, which lead us to expect serous effusion, and yet we find none, as in case 8th. Upon every principle of sound reasoning, these considerations should make us hesitate very much concerning the doctrine of serous apoplexy, and I think entitle us to consider serous effusion in these affections as one of the terminations of simple apoplexy. This affection, we have seen, may be fatal without effusion, and without any morbid appearance, and the cases which terminate in this manner cannot be distinguished in practice from those which terminate by effusion.

In the examination of cases of simple apoplexy, much importance has been attached to turgidity of the veins upon the surface of the brain. I have formerly expressed my doubts whether any reliance is to be placed in this appearance. It certainly occurs in cases, in which there had existed no symptom in the brain, and even in diseases of considerable exhaustion. On the other hand, it does often occur in apoplectic affections, in many of which no other morbid appearance can be detected. In some apoplectic affections, again, the accumulation of blood appears to be rather in the arteries in the substance of the brain, while in others, the arteries have appeared to contain less blood than in the healthy state of the parts. If the conjectures which I have hazarded in regard to the various causes of the apoplectic state shall be found to be worthy of any credit, I think these apparent diversities may be reconciled. In apoplexy connected with general plethora, as under the first head of causes, we should expect to find marks of accumulation in the arterial system of the brain. In cases, again, which come under the causes of the 3d, 4th, and 5th heads, we should expect to find accumulation in the veins. From the particular situation of the vessels of the brain to which I have formerly alluded, it is probable, that as the whole quantity of blood in the head does not admit of much variation, any considerable increase of its quantity in the one system of vessels, must be attended by a diminution in

the other. In some apoplectic cases, accordingly, there are appearances of congestion in the arterial system of the brain, while in others the substance of the brain is said to be paler than natural. In some again, the veins on the surface have been found remarkably turgid, while in others they have presented no unusual appearance; and in a remarkable case after intoxication, which lately occurred to my friend Dr Hunter, accompanied by some extravasation, all the veins on the surface of the right hemisphere were perfectly empty. A similar appearance is mentioned in several cases by Morgagni.

But may not the veins on the surface of the brain become turgid without any relation to apoplexy? Upon the principles of hydraulics, it seems probable, that the vessels of the brain must always contain a considerable quantity of blood, even when the other parts of the system are much exhausted of it. This results from the peculiar situation of the brain, to which I have formerly alluded,—its confinement in an uninterrupted cavity of bone, in which it is closely shut up from atmospheric pressure. In such a cavity, the blood probably cannot be diminished below a certain quantity, except something entered to supply its place, and, in the language of the old philosophy, "to prevent a vacuum." Now, suppose the system in general to be falling into a state of great exhaustion, from hæmorrhage, or any other cause, the first diminution of the quantity of blood sent into the head by its arteries, would probably only produce a corresponding diminution of the quantity sent out of it by the veins. As the one quantity continued to diminish, the other would probably diminish also, producing a remarkable languor of circulation within the brain, but leaving nearly a uniform quantity actually contained in its vessels; and, from the tendency of the arteries to contraction, it is probable that, in such a case, the accumulation would chiefly take place in the veins. Now go to the last step in this process, when the blood is sent into the arteries of the brain for the last time; it would still be the tendency of the arteries to contract upon this quantity to a certain degree, and propel it forward into the veins. At the conclusion of such a case, therefore, the veins of the brain might appear turgid with blood, and this appearance has accordingly been observed in cases far removed from the nature of apoplexy, and even in diseases of great exhaustion.

I have mentioned one remarkable case, and referred to others, in which extensive effusion existed in the brain without any comatose or apoplectic symptoms. Did coma depend upon direct compression of the brain, we cannot conceive how six of eight ounces of fluid should exist in the cranium without pro-

ducing it; but upon the principle which I have proposed of interrupted circulation, I think these cases may be accounted for. When such a quantity of fluid exists in the brain, the blood circulating there must be diminished by the same quantity; but however much it may be diminished, while it continues to circulate without interruption, there will be no coma. I do not at present mean to investigate the manner in which this may take place, but the possibility of it is obvious. It may proceed from a general diminution of the mass of blood to such an extent, that the quantity sent to the head is lessened in proportion to the space occupied by the effused fluid: and even without this, we can conceive the possibility of the pressure within the cranium being so distributed as to affect the arteries and the veins equally. In this case, though the quantity of blood entering the head would be diminished, that which did enter would circulate without interruption. Pressure upon the surface of the brain I have supposed to produce coma, by diminishing the capacity of the veins, while the quantity of blood entering by the arteries remains undiminished: if both arteries and veins were affected equally, I imagine there would be no interruption, and no coma. These conjectures, I think, receive some probability from several cases of tumours of great size, seated in the deep parts of the brain, which, though extensively affecting the organs of sense, have not produced symptoms of oppressed brain, while tumours of a smaller size, seated on the surface, have appeared to be connected with apoplectic paroxysms.

In these speculations on the pathology of apoplexy, I do not think I have advanced any thing that is not supported by observation or analogy, and open to be established or overturned by farther observation. The various classes into which I have arranged the causes of apoplexy, are in some measure conjectural, and I chiefly propose them as subjects for research. I neither expect nor wish them to be received as principles, but as the anticipations of principles, and as such to be tried by the test of observation and experience.

II.—Of the Comatose Cases.

The cases to which, for the sake of distinction, I have given this name, differ remarkably from apoplexy. They are not at first apoplectic; or if there be, at the very first attack, loss of sense and motion, this state is recovered from in a few minutes, without any remedy. The prominent symptom at the first invasion is a sudden attack of violent headach, the patient generally screaming out from the violence of it. Sometimes, as in

cases 13, 16, and 18, he falls down, faint, pale, and exhausted, often with slight convulsion, but recovers from this state in a few minutes. In other cases, (as in case 14,) he does not fall down, but feels a sudden and great uneasiness in his head, generally with paleness, sickness, and often vomiting. The first attack being so far recovered from that the patient is often able to walk home, the symptoms go on under various modifications. The fixed pain in the head continues, often referred to one side of it, and generally there is vomiting. The patient continues for some time, perhaps an hour or two, (less or more, in different cases,) cold and feeble, with cadaverous paleness of the countenance; his pulse weak, and rather frequent. He is quite sensible, but oppressed. By degrees, he recovers heat, and the natural appearance of the countenance, and the pulse improves in strength. The face then becomes flushed—he is more oppressed,—answers questions slowly and heavily,—and at last sinks into coma, from which he never recovers. The period occupied by these changes is various. In case 14, from the first attack to the commencement of coma, there intervened about five hours—in case 13, twelve hours—in case 16, three days. Death followed the appearance of coma, in case 14, in seven hours—in case 13, in thirty-two hours—in case 16, in two days. Other varieties occur which are exemplified in the other cases. In case 15, the period from the first attack to the commencement of coma was but a few minutes, though death did not take place in less than twenty-nine hours. In other cases, death happens very soon after the appearance of coma, though there had been a considerable interval before it, perhaps several hours from the first attack. In case 18, there was an interval of a fortnight, without any urgent symptom; the complaint then returned, and was speedily fatal. In case 17, which seems to belong to this class, after the coma had continued three days, there was complete recovery from it, and it was succeeded by maniacal delirium. This, after seven days, was again followed by coma, which in three days more was fatal. In case 18, there was also, after evacuations, a temporary recovery from the coma, about twelve hours after its appearance, and twenty hours before death.

As far as my observation extends, the cases which belong to this class are generally fatal. * In their symptoms, they form a modification of the disease remarkably different from apo-

* An eminent writer, to whom I have frequently referred, observes, "I have not known a patient recover, who, in the beginning of the attack, complained of sudden pain in his head."—CHEYNE *on Comatose Diseases*, p. 18.

plexy; and on dissection, we find none of those varieties and ambiguities of morbid appearance, which occur in the apoplectic cases, but uniform and extensive extravasation of blood. From the whole history of them, I think there is every reason to suppose, that they depend upon the immediate rupture of a considerable vessel, without this rupture being preceded by the apoplectic state of congestion, or interrupted circulation. The rupture probably arises from disease of the artery at the part which gives way. At the moment when it occurs, there seems to be a temporary derangement of the functions of the brain, but this is soon recovered from:—the circulation then goes on without interruption, until such a quantity of blood has been extravasated as is sufficient to produce apoplexy, in the manner which I have supposed under the second head of causes. We see in some of the cases, accordingly, that large evacuations were capable of removing the coma for a short time, though it very soon returned, and was fatal. In their whole progress, these cases are strictly analogous to the cases of extravasation on the surface of the brain from injuries. The patient recovers from the immediate effect of the injury, walks home, and after some time, perhaps an hour or two, becomes oppressed, and at last comatose. The extravasated blood being in this case removed by the operation of trepan, the coma disappears.

The varieties of the symptoms in this form of the disease, are such as we might expect upon the principle which I have proposed in regard to the nature of them. In some, it is probable, that the extravasation goes on progressively until such a quantity has been accumulated as is sufficient to produce the fatal coma. In others, there is reason to suppose, that soon after the rupture has taken place, the hæmorrhage is stopped by the formation of a coagulum, and after a considerable interval, bursts out afresh, and is speedily fatal. This probably occurred in cases 16 and 18. In such cases, the two extravasations can sometimes, on dissection, be distinguished from each other by their appearance. In some cases, a second extravasation takes place in another part of the brain, the interrupted circulation produced by the first, probably giving rise to the second A double extravasation of this kind occurred in case 17, the patient never having had any previous attack. In this case, the temporary recovery from the coma was remarkable: the apoplectic state had taken place two hours after the attack, and had continued three days. At that time, it is probable, that the evacuations employed had the effect of restoring the circulation, which went on in a very imperfect manner, until it was again interrupted by the fresh extravasation.

The rupture seems in general to take place in the substance of the brain, from which it bursts its way by laceration, either into the ventricles, or to the surface, or in both these directions at once, as in a case described by Morgagni. It is in vain, in most cases, to attempt to trace it to particular vessels; Dr Cheyne was able to do so in some instances, but in general numerous vessels must be laid open by the extensive laceration; hence probably the appearance which has been observed, as if the extravasation had taken place from numerous vessels at once. Sometimes the blood has appeared to be discharged from the vessels of the choroid plexus, sometimes from the veins on the surface of the brain, and, in a case described by Dr Douglas, it was from a rupture of the left lateral sinus.* In cases of this class, it is probable that the extravasation is generally slow, and requires some time to produce the apoplectic state. In some instances, however, it takes place with much greater rapidity, so as to produce immediate apoplexy, and sometimes almost immediate death. The former probably occurred in case 1, in which the extravasation was in the cerebellum. Of the latter, many examples are on record. Indeed, I think it probable, that those cases which are instantly, or very rapidly fatal, are generally of this kind. I have seen no example of simple apoplexy being fatal instantly; it usually requires a considerable time to run its course, as from 24 hours to two or three days.

The origin of the extravasation, in cases of the second class, I have conjectured to be rupture, arising from disease in the artery. Such disease, accordingly, has been frequently observed, and is described in several examples by Morgagni and others. It, in some cases, consists of ossification, in others of that peculiar earthy brittleness, which Scarpa has described as leading to aneurism. In a case of apoplexy, almost instantly fatal, which occurred to my friends Dr Duncan junior and Mr Wishart, they found on dissection "great extravasation from extensive laceration, owing evidently to a diseased state of the arteries, which every where had the earthy brittleness of Scarpa."

In regard to extravasation of blood in the brain, then, the doctrine which I have hazarded is, that it proceeds from two very different causes; that, in the one case, it arises from the immediate rupture of a considerable vessel without previous derangement of the circulation; that in the other, it is the result of the apoplectic state, the blood being forced out by the arterial action in consequence of the interrupted circulation, in the same man-

* Edinburgh Medical Essays and Observations, Vol. VI. p. 106.

ner, as hæmoptysis is produced by obstructed circulation in the lungs. In the former case, it is always in large quantity, in the latter, the quantity is often extremely small, though it is not necessarily small, but may in some cases be as large as in the other. Indeed, there is no reason why the two causes should not be combined in the same individual, the state of simple apoplexy first taking place, and then, in consequence of the interruption, a considerable vessel giving way, which had been previously disposed to do so by disease of its coats. This doctrine I again propose as in a great measure conjectural, and as a subject for farther observation. It will be rendered probable if it shall appear, that those cases in which the extravasation is very small, were in general from the first apoplectic, and that it is large in those which began with violent pain, and passed into coma gradually. Considerable light may be thrown upon the subject by attention to cases of extravasation from injuries. A collection of facts derived from these, would enable us to form some estimate of the quantity of blood which is necessary to produce apoplexy by direct compression. We know that a considerable quantity may be extravasated without having this effect; but it is probable that the quantity may be different in different cases, as, according to the plethoric state of the vessels, the circulation may be in some cases more easily interrupted than in others.

Numerous varieties occur in the seat of the extravasation which I cannot enter upon at present, but which are deserving of being investigated, in relation to their effect upon the symptoms. In one of Dr Cheyne's cases, there were three distinct extravasations; one in the substance of each corpus striatum, and one in the third and fourth ventricles. The symptoms were apoplectic, with some convulsion, and after some time paraplegia. In another, the extravasation was in the substance of the pons Varolii, from which it had forced its way into the fourth ventricle. The symptoms were severe headach, followed by perfect apoplexy, without paralysis. In a case which occurred to a friend of mine, there was a round coagulum, the size of a musket bullet, situated in the iter ad quartum ventriculum. The symptoms were paralysis of the left arm, in a few minutes followed by apoplexy, which was fatal in a few hours. In a singular case, described by Mr Howship, the extravasation was distributed in the substance of the medulla oblongata, in such a manner, as to form several thin strata, alternating with strata of the cerebral matter. The case was a sudden attack of perfect apoplexy, which was fatal in two days.*

* See also a remarkable case by Dr Duncan jun. in his Reports of the Practice in the Clinical Ward, No. xxiv.

(To be Continued.)

II.

Copy of a Report on the Medical Topography, Meteorology, &c &c. of the Military Post of Saint Josephs, in the Island of Trinidad. Transmitted to the Army Medical Board, through the Inspector of Hospitals in the West Indies in March 1816. By JAMES M'CABE, Surgeon of the Royal York Rangers.

THE barracks occupied by the Royal York Rangers in this Island are situate in the interior of the country, at a small village called Saint Josephs, about eight miles east of Port of Spain, which is the nearest coast. A ridge of mountains, extending nearly due east and west, passes the situation of the barracks on the north side, at about the distance of a mile. This chain of mountains, where it passes the barracks to the northward, is interrupted by a long and winding valley, through the middle of which, a number of rivers, from the north side of the Island, flow at the bottom of deep ravines overhung with trees and brushwood. The largest of these ravines, winding from north to south, bounds the situation of the barracks on the east side. Over this ravine, and to the eastward of the barracks, the highest mountain in this part of the island rises to an elevation of about 2000 feet, and by breaking the course of the east wind, diverts its current into the valley and ravine, and gives it a northerly direction.

To the southward of the situation, a valley extends for several leagues to the south coast of the island, where it is terminated by a ridge of mountains, which run east and west along that coast, and nearly parallel with the others which pass to the northward. Through the centre of this spacious valley, flows from east to west, with an almost imperceptible motion, the principal river in the island, called the Caroné. This river having received, as it passes through the valley, the smaller rivers which flow from the mountains, on the northward, empties itself into the sea on the west coast to the southward of Port of Spain.

The valley through which the Caroné has its course, is nearly level throughout its whole extent, and scarcely higher than the level of the sea, consequently the motion of its waters is very slow; unless when occasionally swelled by great falls of rain, it presents more the appearance of stagnant water, than of a river receiving so many rivulets.

The cultivated parts of the valley are covered with groves of cocoa trees, and with a particularly beautiful species of tree, called by the inhabitants the "bois immortel," which is cultivated with the cocoa tree for the purpose of shading it from the intense heat of the sun; and by its towering height, and shady branches, it effectually answers the object of its cultivation. The uncultivated parts are very extensive, and are covered with every description of brushwood, and other luxuriant vegetation.

The road from Saint Josephs to Port of Spain is crossed in several places by the rivers from the mountains, going to empty themselves into the Caroné; and when these rivers are swelled by heavy falls of rain, the road is altogether impassable.

From this general view of the country in the vicinity of the military post of Saint Josephs, it will be seen that it abounds with mountains, vallies, rivers, and ravines; the whole overspread with trees, brushwood, and luxuriant vegetation. The intense heat of the sun during the day, by rarefying the air, occasions a great evaporation from the surface of the country. During the night a denser air rushes in from the surrounding hills, and restores the equilibrium of the atmosphere. The air, before rarified, becomes compressed and condensed, and is forced to part with its aqueous exhalations, which descend, towards the morning, in thick fogs and vapour, into the valley and situation of the barracks. The valley, if viewed at this hour (about nine o'clock in the morning) from the higher grounds in the neighbourhood of Saint Josephs, has the appearance of a large and unequal lake, losing itself gradually in the surrounding sea, its surface appearing as if undulated by a gentle breeze, or rather reminding one of the appearance of the ocean after the greater agitation of a storm has subsided. During the descent and condensation of these vapours, a great degree of cold is produced, the thermometer frequently sinking at this hour as low as 62. This cold is soon removed by the intense heat of the sun, and about three o'clock in the afternoon the general height of the thermometer will be found to be about 84.

From this general account of the country, it will be easily seen, that a great quantity of rain must necessarily fall there; and such is actually the case. The inhabitants divide the year into two seasons, the wet and the dry, but since the arrival of our regiment (about six months) it has been almost continually wet.

From the great extent of country which is uncultivated and

covered with brushwood; from the leaves continually dropping among weeds and rubbish, combined with the great humidity of the atmosphere, and the action of the sun's heat on all these bodies, a putrefaction of vegetable matter must take place to a great extent, with the production and evolution of carbonic acid, and carburetted hydrogen gases. The air is of course impregnated with these effluvia. A great quantity of this brushwood, and other luxuriant vegetation, immediately surrounded the barracks and hospital when the regiment arrived, but by the attention of Lieutenant-Colonel Mahon, and the exertions of the regiment, a great deal has been cleared away, and consequently the air rendered less impure.

The soldiers' barracks are objectionable, on account of their situation, their plan, and their state of repair. They are situate on the brink of the ravine, which I before described as bounding the situation of the barracks on the east side. The north wind comes through this valley and ravine from the mountains, loaded with vapours and exhalations, and farther impregnated with the effluvia arising from the putrefaction of vegetable matter, which necessarily takes place at the bottom of these deep ravines. There are no galleries to the barracks to break the current of this wind, and the floor, being in contact with the earth, admits beneath it only a deposition of stagnant water, and of every other filth, which a concourse of persons necessarily occasions. The boards of the floors have also rotted in several places, and give free admission into the barracks of the effluvia arising from the stagnation beneath it. The roof is in about the same state of repair. Thus the north wind enters the windows of the barracks in the rear, not only impregnated from its course along the ravine, but fully saturated with a worse effluvium, arising from underneath the barracks, and which no attention to cleanliness on the part of the regiment can be sufficient to obviate.

The officers' barracks are less objectionable; they have a southern aspect, with a gallery in front; and being farther removed from the ravine, are less under the influence of the vapours arising from it; but they require a gallery in the rear, the want of which renders it necessary, whenever it rains, to shut up the rooms on the windward side, and as it rains here so very frequently, this circumstance is attended with great inconvenience. Added to this, an interval is left between the wall and roof in front of the barracks, and the rooms communicate with each other at the top, the partitions not extending near to the roof of the building. I suppose this plan had been adopted with the view of allowing a free circulation of air, and rendering the

rooms cooler, but these advantages appear to be more than counterbalanced by the admission of the damp night air.

The hospital is a fine large airy building, and the several offices are judiciously planned; but it happens unfortunately to be built almost on the verge of a swamp. It affords accommodation for about seventy patients only, without their being crowded, and, consequently, is much too small for a regiment at this station. It is much to be regretted, that there are no galleries to this hospital. Were it surrounded with a gallery, it would prevent the necessity, which at present exists, of shutting up the windows on the north front whenever it rains, and those on the south when the sun beats in that direction. This necessity of frequently closing the windows of the building, occasions a great inequality of temperature, which is highly injurious to the sick. The range of a gallery would also greatly assist the convalescence of patients recovering from acute diseases. If, instead of this large building, two separate wards had been built, it would have been better and more convenient, as it would allow serious cases of disease to be separated from surgical cases, and convalescents. A dead-house is also much wanted, and the whole would require to be inclosed.

From the general description that has been given of the country in the neighbourhood of the barracks, and the more particular account of their situation, &c., it will be seen that the barracks occupied by the men are cold and damp; that the air they respire is rendered impure, from causes already mentioned; that a great change of temperature takes place at this post, at different periods of the day; that the heat is excessive when the sun is vertical, and the cold considerable at night and in the mornings. The operation of all these causes on men habitually intemperate, necessarily produces a great deal of disease: accordingly, fever, remittent and intermittent; dysenteries, acute and chronic; coughs and other pneumonic affections, are very frequent among the men; but dysenteries are by far the most prevailing diseases.

With respect to the inhabitants on this part of the island, I have made every inquiry of the medical practitioners residing here; but as there are no records kept, there are no data to calculate the ratio of sickness or mortality among them. The diseases among the whites appear to be the same as among the troops. The people of colour are also subject to the same diseases, in many respects, however, considerably modified. The fevers among the latter are seldom of the remittent kind, but they are particularly subject to intermittents. The negroes are seldom affected with fevers. The remittent is scarcely ever

known to occur among them. Their diseases are generally of the cachectic kind, known in the island by the appellation of "Mal d'Estomac." They are also subject to pneumonic affections, frequently terminating in phthisis pulmonalis; to dysenteries, acute and chronic, and often when they prove fatal, attended with, or rather terminating in, general dropsy.

With respect to the ratio of mortality among the white inhabitants from fever, it appears to exceed that which is occasioned by the same disease among the troops. This result is perhaps the consequence of the difference of constitution in these two classes of society; and probably in some measure influenced by the difference of treatment; as the civilian practitioners, either from prejudice, or from the fear of being injured by the imputation of novelty in their practice, do not adopt the same active remedies as the military.

III.

Experiments in favour of a New Substance for Tying Arteries, and for Suture, with Practical Observations. By JOSEPH M'SWEENY, M. D.

THE valuable work of Dr Jones has acquainted the medical world with the ligature best adapted for tying arteries. But modern surgery has gone even a step farther, in endeavouring to use a substance of an animal nature, over which a wound might heal. With this intent minute silk ligatures have been tried, and in some cases, it appears, with success. The paper in the Medico-Chirurgical Transactions on this subject is not very encouraging. The experiments of Mr Cross in the Medical Repository, are not in favour of minute silk ligatures for the purpose. Mr Astley Cooper has recently used catgut in an operation for popliteal aneurism; the wound healed over it, and the patient had a rapid recovery. Fortunately there is a substance of an animal nature, possessed of all the properties recommended by the Doctor, over which a wound will heal. This is silk-worm gut, which is imported into England for the purposes of angling, and is to be found in the shops that supply fishing-tackle. It is round, smooth, amazingly strong; it is only as thick as horse-hair, thus adapted for cutting the in-

ternal coat of an artery; and it admits of being firmly knotted when moistened.

After having read the case of ligature on the aorta, by Mr Astley Cooper, I determined to try whether a wound would heal over this substance, and also to ascertain the effect of leaving some of it in the abdomen.

Experiment 1.—A large incision was made into the abdomen of a dog, and a small bundle of silk-worm gut was left there. Then with a curved needle and a single thread of it, I sewed up the wound into the abdomen closely, taking care not to sew up the wound in the integuments. The close stitches afforded an opportunity of seeing whether this substance would cause great irritation. The lips of the wound in the integuments were brought together by sticking-plaster, and the animal was confined to a horizontal position. The sticking-plaster was found not of great service. The wound healed kindly, and on the 17th day it was cicatrized. I had not an opportunity of examining farther.

Experiment 2.—An incision about two inches and a half in length was made into the abdomen of a rabbit; a small bundle made up of twelve inches of silk-worm gut was introduced. The lips of the wound in the integuments were brought together by the twisted suture over the silk-worm gut, with which I had closely stitched up the wound into the abdomen. The pins were taken out on the 4th day, and the wound was found united. Thirty-two days after the experiment the rabbit was killed, and the bundle of silk-worm gut was found attached to the omentum, surrounded by a membrane that rendered it smooth. The greater part of it was so enveloped with adipose substance, that it appeared to be a mass of this nature.

Experiment 3.—An incision about two inches and a half in length was made into the abdomen of a rabbit. The same quantity of silk-worm gut, coiled up, was left there as in the former experiment. The wound into the abdomen was closely sewn up with silk-worm gut, and the lips of the wound in the integuments were brought together by the twisted suture. The pins were removed on the 3d day, and the wound was found united. Twenty-two days after the experiment the rabbit was killed; the bundle of silk-worm gut was found attached to the colon, surrounded by a membrane, which rendered it so smooth, that it appeared to be a tumour attached to the colon.

Experiment 4.—A small bundle of silk-worm gut was introduced into the abdomen of a rabbit, as in the former experiments. The abdomen was examined after a few days; the silk-worm gut was found attached to the peritoneum, and inclosed in a cyst by adhesions.

Experiment 5.—I made an incision about two inches and a half in length, into the abdomen of a rabbit. The intestines were pushed up, so that I had a good view of the psoas muscle. With a curved needle, armed with a single thread of silk-worm gut, I inclosed part of the psoas muscle, in a ligature which was fastened with a double knot. I cut off the ends of the ligature with a small nippers, leaving two peduncles to ascertain what irritation would arise from them. The wound into the abdomen was sewn up with silk-worm gut, and the wound of the integuments was closed by the twisted suture as before. The pins were removed on the third day, and the wound was found united. The rabbit was killed a month after the experiment. The ligature was completely covered over with muscular fibre, one peduncle projected, and had evidently irritated the neighbouring mesocolon, which was red, but not to a great distance. The colon at this point was slightly red. This did not appear to interfere with the functions of the animal; it had passed feces on that day. The other peduncle had lain more horizontally, and consequently projected less; its point was a little beyond the surface of the muscle.

Experiment 6.—An incision nearly three inches long was made into the abdomen of a rabbit. The intestines were pushed up, and part of the psoas muscle was inclosed in a ligature, fastened by a double knot. The ends were cut off with a nippers, as short as could be conveniently done. The wound into the abdomen was closely sewn up with silk-worm gut, and the wound in the integuments was closed by the twisted suture. The rabbit was killed on the sixth day. The ligature was covered with muscular fibre, though as yet but thinly. One small peduncle projected a little beyond the surface of the muscle. There was no inflammation. In performing these experiments, the importance of keeping the animals fasting was evident. The intestines did not give a great deal of trouble, and on account of the abdomen being flaccid, I was enabled to make the incision in such a way, that on it probably a great deal of the success depended. The skin was drawn to one side of the abdomen, and the incision was made to the requisite extent down to the linea alba. The cut was then continued through the linea alba into the abdomen. By this means, when the skin was allowed to resume its former situation, the wound through it did not correspond with the wound into the abdomen. All the incisions were in the linea alba, or at the left side of it. In every experiment except the fourth, the wound into the abdomen was closely stitched up with silk-worm gut, and in every instance the wound healed, and it was found imbedded in the parts that grew round

it. The silk-worm gut, both used for suture, and left in the abdomen, was always found unchanged. In large wounds of the abdomen, where it will be judged necessary to use suture, silk-worm gut may be found useful for this purpose; particularly if we take care not to pierce the skin with the needle, but to bring the lips of the wound in the integuments close together, that they might unite over the suture underneath. Silk-worm gut is well adapted for suture, on account of its strength, fineness, and great smoothness. The danger of causing irritation with the knot which fastens the thread to the needle, can be obviated by using a needle with a hole at the bottom of the eye, through which hole the thread may be drawn, and a knot fastened at the end, so large as not to repass. In this way the knot will lie in the eye of the needle, and will not tear the flesh in the passing. A needle of this kind, armed with very fine silk-worm gut, may be of particular service in wounds of the intestines.

There can be little doubt that catgut may be left in the abdomen with the same impunity as silk-worm gut. It may be asked which ought to be left there, if it were necessary to tie the aorta again. Although silk-worm gut is eminently possessed of all the properties recommended by Doctor Jones, perhaps, in this situation, catgut may be preferable. The objection to silk-worm gut as a ligature for the aorta, arises from the sharpness of the points of the peduncles that project from the knot when the ends of the ligature are cut short. Whether the ends could conveniently in every case be cut off so short as not to cause subsequent irritation, I dare not determine. If they are to be cut off short, three or four knots ought to be put on the ligature instead of the double one. The fineness of this substance will admit of them without causing a great bulk. For cutting off the ends of a ligature of catgut, or silk-worm gut, I think a fine nippers, guided by the fingers, will be found convenient. It will obviate the danger of using a knife or scissors among the intestines. Silk-worm gut promises to be of service for tying arteries in amputation, where it is a great consequence to heal the stump as quickly as possible, and where the life of the patient frequently depends on avoiding copious suppuration. In purchasing silk-worm gut, care should be taken not to get a thicker substance than resembles it, called Indian Weed. The curled ends of a thread of silk-worm gut should be cut off as useless. It should be well steeped in tepid water immediately before using it, and should also be repeatedly wound round a body such as a probe, to take off its elasticity, that it may be more easily knotted.

Paris, September 20, 1818.

IV.

Cases of the Effects of Mercury on the Heart. By JOHN ASTBURY, M. D.

MR ——, aged 55, of a strong muscular appearance, but with a weak stomach and bowels, consulted me on December 19th, 1814, on account of a cold œdematous swelling in the right leg and thigh, the consequence of a diseased lymphatic gland in the groin. Some mild mercurial ointment, combined with soft soap, and camphor, was directed to be rubbed upon the thigh of the affected side, and upon the diseased gland, morning and evening. On December 29th, his son came to me in the morning, and informed me, that his father was much weaker, and worse, than when I last saw him. On my visiting him, I found him raised up in bed, with his mouth open, gasping for breath, his breathing very laborious. He complained of great uneasiness and anxiety about the præcordia; he was in a profuse perspiration; there was a strong mercurial fetor in his breath; his pulse fluttering, feeble, and intermitting, so that it could not be counted. He got up to the night stool in my presence, and his strength was so much depressed, that it was with very great difficulty he could be got into bed again. He had a slight pain in his side, with slight cough, and trifling bloody expectoration; his tongue was white and moist. As the action of the heart was so feeble and irregular, and his strength so much depressed, I gave him wine very freely, with the best effects; I likewise directed a strong solution of magnes. sulph. to open the bowels copiously. The next morning I found his pulse more distinct, though still very intermitting. He had had three copious stools; his breathing was less laborious; the anxiety about the heart was diminished; his strength was improved; the perspiration was still very profuse; he had slept three hours, and was in every respect relieved. The wine and solution of magnes. sulph. were continued for several days. As the mercurial fetor in his breath, and the effects of the mercury declined, the pulse became more regular and full, the perspiration greatly diminished, his strength improved, but the bloody expectoration and cough, with slight pain in his head, increased. The wine was therefore omitted; saline medicines, with small doses of nitre, and a blister to the side, were directed; the swelling in the leg and thigh, and in the diseased lymphatic gland, gradually subsided, and my patient recovered his usual health.

On the 1st of January 1815, I was consulted on a case, where the patient had been rubbing in mercury for a venereal complaint for some weeks. He stood in the street in a current of air, on December 31st, in thin shoes, and fine cotton stockings, for a considerable time, and was attacked in the evening, with great anxiety about the præcordia; alarming and sudden depression of strength; a numbness, and partial loss of motion in his hands and feet; great hurry of spirits; a profuse perspiration; his pulse was fluttering and undulating; his tongue was dry. This was the history of the complaint I received from my very ingenious and well informed friend, Dr Northen of Newcastle, who attended him on the night of December 31st. I found him on the morning of January 1st in a profuse perspiration; his pulse full and strong, but very intermitting, about 60; his breathing tolerably free; he complained of an uneasy sensation in the region of the heart; his countenance was composed, his mind clear and collected; there was a partial loss of motion in his hands and feet; his strength was much depressed; he complained of great numbness in his hands and feet; his tongue was dry and brown in the middle, though he did not complain of any particular thirst. Some purgative medicines had been directed, which were continued, and some doses of sulph. lot. were ordered. In the night of January 4th a complete paralysis of the hands and feet came on, which, in the afternoon of the 5th, affected all his limbs, and extended to the heart, and he died in the night of January 5th.

Both these cases were evidently of the same nature as those described by Mr Pearson, in his reports of cases in the Lock Hospital, under the name of the Mercurial Erethismus, arising from the poison of mercury affecting the heart.

It appears from these two cases, and from other cases recorded by Mr Pearson, that, in some instances, mercury affects the heart with partial, and in other cases with complete paralysis, the same as the extremities, and frequently produces sudden death. Probably the energy and life which exist in the heart, may enable that organ to recover from a partial paralysis, (a crippled state of action,) in a more speedy manner than the extremities do, where the circulation is more languid. In both these cases, the application of, (or exposure to cold air,) seemed to direct the action of the mercury to the heart, and should make us cautious how we expose patients when under the influence of mercury to cold air. In the first case, the patient went out every day into the air, and the cough, slight pain in the side, and trifling bloody expectoration, were evidently the effects of exposure to cold air; for had these symptoms arisen from the

irritation of mercury, the cough, bloody expectoration, &c. would have subsided, as the effects of the mercury declined; on the contrary, the cough, bloody expectoration, and slight pain in the side, increased, as the effects of the mercury were diminished.

I observe Mr Pearson recommends a generous diet, and free exposure to cool dry air, and the patient to sit with his windows open in cool weather in these cases. These were the first cases I ever met with of the same nature, and as both were attended with profuse perspiration, (and if there had been no profuse perspiration,) I should think it a dangerous experiment, with these two examples before us, to expose patients under similar circumstances to cold air. If I were to meet with another similar case, I should treat it with wine, as the best cordial calculated to restore the regular action of the heart, and give sufficient doses of the solution of magnes. sulph. to diminish the effects of the mercury in the habit, and keep the patient quiet in a temperate, but not cold air. There was no ptyalism in either case. I was not sure, whether the profuse perspiration was not an effort of nature to relieve the constitution from the effects of the poison; but I did not observe any salutary effects from it in either case; neither was the cough or bloody expectoration at all relieved by it.

Barlaston, April 14th 1818.

V.

Case of Recovery from the Effects of Opium. Communicated by J. Kinnis, M. D.

William Mallison, aged 28, a private soldier in the 10th regiment of foot, requested an officer, whose servant he was, to apply for the commanding officer's sanction to his marriage with a young woman, to whom he was betrothed. On account of some misdemeanour, with which he was chargeable, no attention was paid to his request, and, in a moment of irritated feelings, he resolved to destroy himself. For this purpose he procured, in his master's name, an ounce and a-half of laudanum, from a druggist in Newport, and went to take his last leave of the object of his attachment. He swallowed the whole of the tincture just before entering the house in which she re-

sided, and then told her the nature of his visit, and the circumstances attending it. The poor girl, conceiving that air, exercise, and the interest of her conversation, might probably counteract the baneful consequences of the poison, and, at the same time, preserve the good name of her lover, enticed him to walk with her a short distance into the country. By these means she succeeded in keeping him awake, as she conjectured, nearly three quarters of an hour; but finding it no longer possible, her solicitude for his reputation gave place to alarm for his life, and leaving him fast asleep on the grass, she returned quickly to Newport to seek assistance. This was on the 28th May 1817, about 10 A. M. He was carried by the town-guard to the serjeant's quarters, detained there during an unsuccessful attempt to procure medical aid in town, and brought to Albany Hospital twenty minutes after 11 o'clock.

I found him in a deep still sleep; respiration being perfectly inaudible, and some attention necessary to perceive the motion of the ribs; the eye-balls appeared, through their coverings, rather prominent; the pupils were fixed and contracted to the size of a pin's head; the conjunctivæ traversed by several large blood-vessels, which, however, it was afterwards ascertained, had existed before; pulse 75 and weak; superficial temperature natural. I directed two men of the hospital guard to lift him out of bed, lay hold of his shoulders, and drag him nearly in an upright posture from end to end of the ward; his feet trailing on the floor, and head hanging over his breast. In two or three minutes, the soles of his feet being turned downwards, and his chin lifted up, he appeared to contribute something to his own support, raised his eye-lids, and turned his head. Twenty grains of sulphate of zinc, which another medical officer had gone to prepare, were now hastily mixed up with water, and poured down his throat; each arm was brought around a soldier's neck, he was forcibly and rapidly hurried along as before; and copious draughts of tepid water were at intervals administered. Sometimes his step seemed, for a moment, to acquire a degree of firmness, and presently after would his irresistible propensity to sleep render it a most laborious task to prevent him from sinking on the floor. In the course of ten or fifteen minutes, sulphate of zinc was again exhibited in the quantity of two scruples. He now spoke, and seemed conscious of what was transacting around him. The style of his answers was at first laconic and sulky; but this disposition soon went off, and, on perceiving us tickle his fauces with a feather to promote vomiting, he seconded our efforts by applying a finger to the same part. In another quarter of an hour, we succeeded *in procuring* a copious discharge of fluid from the stomach. A

drachm of ipecacuan, with three grains of tartarised antimony, made up in the interval, was now divided into two parts, which were successively given; the mechanical means to keep him awake, and to excite vomiting, being all the while continued, his stomach was at length excited to repeated action.

At one o'clock A. M. vision was observed to be good, and when he exerted attention, the eyes were marked by intelligence; but the iris remained insensible, suffering no perceptible change on the abstraction or approach of a lighted candle; pulse 68 and fuller. His attention being kept alive by perpetual interrogation, he gave a distinct account of the circumstances that led to his attempt at suicide; he betrayed great fear of punishment; he could hardly be prevailed on to reveal the name of the person who had sold him the tincture. Some of his first words, on returning consciousness, had expressed a desire that the fair personage, who had been the innocent cause of his rash deed, might be sent for, and the same request was more than once repeated during the night. At half past three o'clock I left him in charge of a careful orderly, with injunctions that he should be kept in continual motion; unless at intervals of an hour and a half, when, if he chose, he might be permitted to rest twenty minutes, as he complained of great fatigue. An ounce of castor oil, given just before I left him, was rejected by vomiting.

29th May, nine A. M.—He has vomited frequently, the matter at first slimy and colourless, latterly of a bilious appearance, bitter taste, and, as he thinks, opiate flavour; the last is the only matter vomited, of which he remembers the taste. Afraid of indulging in sleep, he has seldom embraced the proffered opportunities to rest himself. I had him put in bed, and gave him an ounce of Epsom salts at eight o'clock. It was not before observed, that sight and hearing are rather less distinct than formerly; pupils not quite so much contracted; pulse 88; tongue slightly furred; he has parching thirst, vertigo, and occasional tremors. He is full of gratitude for the exertions used to recover him

Adhibeatur enema commune.

Seven o'clock P. M.—He vomited a cup of coffee given at ten o'clock, but retained the salts, and has had four liquid clay-coloured stools; frequent short and interrupted slumbers; vertigo only on getting out of bed; no headach; no pain of præcordia; no vomiting since the coffee was rejected; pupils have resumed their natural size and contractility; thirst still urgent; pulse 66 and soft.

Let him quench his thirst with barley-water.

30th May.—Although he slept well, the drowsiness continues; it is, however, diminished since yesterday; some soreness in the præcordia; pulse 92, and otherwise natural; tongue furred; thirst much less urgent.

Let him leave his bed.

Vespere.—He has been much on his feet to-day; felt drowsy at times; but this sensation, the giddiness and dimness of vision are nearly gone; pulse of the usual strength and frequency.

31st May.—He had unpleasant dreams, but, upon the whole, rested well; appetite pretty good; stools natural; complains of nothing excepting slight debility.

1st June.—Slept very well; bowels regular; pulse natural; vision and hearing perfect.

2d June.—All the functions are natural. Transferred to the convalescent ward. He was sent out of hospital on the 11th, and permitted to conclude his marriage through the interference of Colonel Mainwaring.

It ought to be remarked, that, in this case, the stimulant effects of opium (if any such occurred) were either so fleeting or so trivial as to escape alike the remembrance of the sufferer and the observation of his anxious companion. Unconquerable drowsiness was, according to both, the first symptom. I asked the former if his feelings bore any resemblance to those attending intoxication, and received for answer, "None at all." The day on which the action was committed, he had not tasted solid food after one o'clock: he had drunk two pints of ale, but no spirits. The quantity of laudanum swallowed was ascertained, by inquiry of the druggist who sold it, and it is almost superfluous to add, that it had been prepared agreeably to the formula of the London College.

In transmitting the above case to the Army Medical Board, Dr Denecke, principal medical officer in the Isle of Wight, (whose assistant I was when it occurred,) annexed the following remark, which he has obligingly permitted me to retain:—"Cautioned by Orfila's experiments against the supposed counterpoisons of opium, and observing the gradual mitigation of all alarming symptoms, I fully coincided with Dr Kinnis in the most simple and general plan of treatment after the 29th May. The coffee was given at my request; the first effect was grateful to the feelings of the patient, but it was only retained a few minutes."

York Hospital, Chelsea, 10th August 1818.

VI.

Case of Death from Swallowing a quantity of Oxalic Acid, with Observations. By W. W. Fraser, Esq. Deputy Inspector of Hospitals, Gibraltar.

October 6th 1817.—About ten minutes before eight o'clock A. M. the brother of a civil officer in this garrison swallowed half an ounce of oxalic acid, in solution, instead of Cheltenham salts. He instantly perceived the acid taste, and became conscious that some mistake had occurred. Great irritation of the fauces and stomach succeeding, he took some water, which, together with the poison, produced vomiting, and about twenty minutes after it had been taken, four grains of tartar emetic were prescribed by an apothecary. Pain, vomiting, and alarm increasing, I was requested to visit him, which I did within forty minutes after the acid had been swallowed.

The nature of the poison evinced the necessity of alkaline medicines.

Spirits of hartshorn being at hand, I gave two small doses largely diluted, but they produced considerable pain in the fauces and œsophagus.

Magnesia having been sent for, and speedily obtained, was given in large quantities. An instantaneous sensation of relief from burning pain in the stomach, resulted from the exhibition of the first dose; in the course of a few seconds it was rejected by vomiting, bearing the appearance of a thick curd. Expressions of gratitude for the relief thus afforded immediately followed, and continued to be repeated in the warmest manner, during the remainder of the life of the patient.

Excruciating pain, violent spasms, and vomiting, however, soon recurred; the magnesia was continued, and given to the extent of upwards of two ounces; emollient clysters were administered, which produced a natural motion.

The tongue was now swollen, and covered with a thick white coat, as if it had been scalded; respiration was impeded; general numbness was complained of; a clammy moisture bedewed the whole frame; the pulse was scarcely perceptible at the wrist or temples; the extremities were cold, and the nails livid; the matter vomited became tinged with blood; general agitation, spasms, painful numbness, and loss of strength increased, and speedy dissolution threatened. About half past

nine a large quantity of blood was brought up, after which gruel, with a little Madeira, was exhibited, and ten drops of tinctura opii, which allayed the irritation of the stomach for half an hour, when it became necessary to give fifteen drops more of the tinctura opii.

Whilst suffering under the distressing symptoms just noted, various diluents had been exhibited, the feet and hands had been immersed in hot water, hot fomentations had been applied to the epigastrium, and friction of the limbs and abdomen by four men, was had recourse to: and by a rapid succession and repetition of means, before eleven the patient was restored from immediate imminent danger; he declared that he felt perfectly easy, voided his urine freely; and had his bed-clothes changed at his own desire.

About half past 11 o'clock he again complained of algor and occasional numbness; bottles of hot water were applied to the feet, and small quantities of sago and wine were exhibited. By twelve o'clock this cold stage had passed off, the extremities resumed their natural warmth; numbness decreasing; pulse 96 and firm, and a pyrexial state presented.

By two o'clock P. M., copious diaphoresis had ensued; pulse 120, rather small; the pain of the stomach had increased, but he had no return of vomiting; he experienced a tingling sensation at his fingers; and evinced a peculiar quickness of manner. He was directed to continue the sago without the wine, adding to it some cretaceous powder.

Injiciatur enema commune.

Half past six P. M.—Diaphoresis abated; pulse 100, feeble; skin cool; neither pain nor tension of abdomen; is generally easy; the tongue appears natural towards the edges, elsewhere coated; lies on his back; ordered to use beef-tea, jelly and milk occasionally.

Capiat ol. ricini ℥i. ex cyatho lactis recentis.

17th, half past nine o'clock.—Was easy, and slept during the first part of the night; about two A. M. got up to the chair, when he became sick, and vomited nearly a pint of slops; had a small dark coloured stool; violent retching, spasms, and singultus supervened; pulse nearly 100, feeble; complained of numbness in the right arm, and occasional chilliness of the feet. These symptoms continuing severe, and a soreness of the stomach being complained of at four A. M. 15 drops of tinctura opii were given, and hot bottles applied to the stomach, which produced quietness till seven o'clock, when the pain recurred. Ten drops of laudanum were given; he had a small clay coloured stool about eight o'clock after an enema. The spasms were

again become more violent, with retchings and singultus, pulse not quite so feeble; tongue clean and moist at the edges; centre as yesterday; has a tendency to stupor, alternated with restlessness

Continuentur absorbentia et opium pro re nata. Repetantur enemata ad alvi solutionem, et fotus abdominis.

18th.—Slept well; face swollen; pulse 96; feels easy; no vomiting; is hoarse; had several scanty stools in the night; passed his urine involuntarily.

Repetantur omnia.

Four o'clock P. M.—Countenance more turgid; tongue covered with a white crust; singultus frequent during the day, with painful hawking; took several doses of the castor oil in milk, which remained on the stomach, but did not produce alvine discharge.

Capiat magnes. sulphat. ℥i. ex infus. rosæ.

Seven o'clock.—The salts occasioned great pain in the œsophagus, and produced some vomiting; general anxiety and singultus rather increased.

Capiat statim ol. ricini ℥iss. et nisi alvus prius responderit, repetatur dosis horâ 8va, necnon accipiat enema stimulans.

The clyster procured free alvine discharge.

22d.—From the 18th until the evening of the 22d he appeared to be doing well; there was an occasional agitation of manner; his mouth and fauces were parched, and he had occasional singultus; but his bowels were free; his pulse and skin nearly natural, and he conceived the danger so slight, that he went out during the day in a gig, contrary to the directions given to him.

To-night the singultus has become more violent than it has been for the last two days; the general anxiety is somewhat diminished; still there is a heaviness of manner observable, together with increasing emaciation; the tongue can be best resembled to the dry coating of sugar on sweatmeats, interspersed with red patches; deglutition more difficult; bowels slow, with griping. About an hour ago took ℥iss. of castor oil in milk, but during the visit the singultus was so violent as to induce the exhibition of fifteen drops of tinctura opii; skin natural; pulse 80, increasing in fulness.

23d.—Restless during the first part of the night, slept towards morning; had several loose stools of natural appearance; singultus frequent and distressing; disposition to dose continues;

tongue covered with a thick, white, dry coat; pulse 80; skin natural; no appetite.

Utatur balneo tepido, et embrocatione cum tinctura opii regione epigastrico. Capiat paululum infusi calumbæ tenuis.

Vespere.—Warm bath afforded little relief, no stool, tongue, pulse, and skin as in the morning; applied the sinapisms for ten minutes, when they became insupportable; singultus considerably abated; complains greatly of the throat; painful eructation; the general appearance composed; took ℥i. of castor oil, which remained on the stomach. Directed to continue the mucilaginous drinks, and to repeat the oil in the morning.

24th, nine o'clock.—Has taken the oil this morning; complains of acidity at his stomach.

Si perstiterit cardialgia capiat magnesiæ carbonatis drachmam e lacte horâ decima. Accipiat quoque enema commune, necnon repetantur balneum tepidum et sinapismata regione epigastrico.

25th.—Passed a bad night; tongue in patches as before, with some desquamation; skin cool; dejections contain filaments of whitish matter, similar to the crust on the tongue; great depression of spirits; singultus continues violent; vomited during the night; the ejected matter tasted acid.

Repetantur oleum ricini et magnesia alba e lacte ut antea. Immittatur balneo. Accipiat enemata pro ne nata. Diæta ut antea.

Vespere.—The bowels not being freed, he took a second dose of castor oil in the forenoon, which procured four copious stools. On the whole seems better, although debilitated; singultus abated; tepid bath to be repeated.

26th.—Had some scanty stools; has had a very bad night, with hallucination; countenance dejected; unwilling to answer questions; tongue reddish brown, and parched; teeth covered with sordes, similar in appearance to that observed in cases of low fever; has no pain; heat natural; pulse firm; vomited a little during the night; matter tasted acid. About five o'clock his brother gave him a few drops of tinctura opii, which quieted him.

Repetatur magnesia ex infuso calumbæ.

Two P. M.—Has taken a small quantity of the calumbo, which produced no uneasy sensation; is much more composed; white crust on the tongue quite gone, but it is generally parched and red; brown sordes remain on the teeth.

Seven P. M.—Has remained up since eleven o'clock this morning; feels weak; pulse 100, feeble; hands and legs cold; no vomiting, no stool, some thirst. Directed to remain in bed, and

to have a dose of castor oil: bottles of hot water to be applied to the extremities.

Eleven P. M.—No stool from the oil; pulse 106, weak; frequent eructations, without acidity; heat restored.

Accipiat enema commune statim.

27th, Eight A. M.—Was pretty quiet during the night. Towards the morning he became restless, and took fifteen drops of tinctura opii; injection procured two thin stools of natural colour; pulse 86. An eruption has appeared over the whole body, which is papular and itchy; inclined to dose; tongue moist at the edges, parched and brown towards the centre.

After this period little alteration took place in his symptoms, except in increasing debility; in general redness of the body, and an occasional hiccough; and complaints on swallowing any article which was not perfectly bland; and he retained his senses until the evening of the 28th.

He expired on the 29th of October, having first caused that general interest in this garrison, which is ever produced by extraordinary accidents befalling the young and the good; secondly, having apparently recovered from the immediately dreadful effects of the drug; and lastly, dying at the end of fourteen days from inanition, consequent to the swallowing poison, the effects of which he was generally believed to have overcome.

Sectio cadaveris.—Fifteen hours after death, the body was examined, by which time the eruption had almost entirely disappeared; the general emaciation, and the almost complete absorption of adipose matter were particularly striking; the muscular fibre appeared florid.

The internal surface of the stomach, and a small portion of the intestines, shewed marks of inflammation; the stomach contained a small quantity of a dark coloured fluid; the villous coat was completely destroyed, and this abrasion extended upwards throughout the whole of the œsophagus, exposing the muscular coat. In some parts the villous coat seemed entire, but on examination it was found to be soft, and easily rubbed off by the finger or sponge. The muscular coat of the stomach and œsophagus was much thickened, highly injected, and exhibited a dark gangrenous appearance. The circular and longitudinal fibres were very distinct, and could be easily separated; the cardiac extremity shewed greater marks of inflammation than the pyloric extremity of the stomach; no perforation of the stomach was observable. The small intestines exhibited similar appearances, but partially, and in a much slighter degree. In the tho-

rax slight adhesions between the pleura pulmonalis and pleura costalis were found to exist, most probably chronic. The viscera in other respects appeared healthy.

The circumstance which most particularly attracted my attention in the foregoing case, was the quickly sedative effect produced by the acid; sickness, vomiting, and spasms, were succeeded by impeded respiration; a scarcely vibrating pulse; a general coldness of the body, and a numbness, amounting almost to universal paralysis. Nevertheless, the head seemed perfectly disengaged, except in so far as affected by the mere act of vomiting.

The instantaneously produced and continued disease of the fauces and œsophagus, evinced the potential nature of the acid, and probably from the affection of the nervous system, consequent to the sudden disorganization of so large a portion of important organs connected by the sympathetic nerves, were those quickly dangerous symptoms induced. The acid itself could not have been absorbed so speedily as to produce the effects through the medium of the sanguiferous system.

In cases of poison, two indications are generally held in view, viz.

1st, To evacuate the stomach of the noxious drug.

2d, To neutralize it.

Where chemical poisons have been taken, vomiting is generally brought on by the article itself, and dilution, or swallowing quantities of oil, is all that is proper towards the first indication; but most assuredly so, when we have certain means towards the second. In the melancholy instance which I am now retracing, probably a single moment might have been sufficient for the acid to have produced its deadly effects. However, when I first saw my friend, an obvious course presented, viz. to proceed with antidotal remedies; to endeavour to restore the nearly exanimated frame, and to allay irritation.

The carbonate of magnesia has generally proved the most grateful remedy in cardialgic complaints. It is more flocculent and divisible than other alkaline earths, and it unites with larger quantities of the oxalic acid. In this case, inexpressible relief followed its use, and a curd like substance was produced by its union with oxalic acid.

The sensation of heat, with acidity of stomach, frequently presenting, induced a persistence in the use of alkaline medicines, which possibly promoted the easy retention of nutritious diet, and prolonged life further than in any recorded instance I am aware of, wherein a large or deadly dose of this poison had been taken.

Opium proved eminently useful, and prompt in quieting the irritated stomach, that anodyne probably reaching those portions of the villous coat, whose *energy* had not been totally destroyed by the caustic action of the acid; and seldom could the effects of warmth, conveyed by every possible medium, and powerful friction, have been more obvious, in sustaining the fluttering lamp of life.

This state was in a few hours succeeded by gastric phenomena, pain, violent spasms, tendency to vomit, eructation and acidity; but in consultation, venesection was deemed quite inadmissible.

There was a distinct febrile paroxysm, consisting of the cold stage as described; pyrexial symptoms to a considerable extent for a few hours, succeeded by profuse diaphoresis.

The disordered state of the stomach during the following days, might have been aptly termed dyspeptic, accompanied with increasing debility, and ultimately combined with phenomena, similar to those attendant on low fever.

The tongue latterly became dry, red and brown with sordes; there was no increase of heat; the pulse was but little altered, except in becoming more feeble; slight aberrations, and inquietude of mind alternating with drowsiness, amounting also to coma;—emaciation, as if from total inanition, accompanying that debility which appeared to be the immediate cause of death. Possibly, the absorption from the sphacelated portion of the primæ viæ may have given character to some of the symptoms, and may be supposed to account for the eruption on the skin.

The appearances on dissection powerfully called to mind those witnessed in the stomachs of persons who had suffered from the epidemic fever in this garrison, as there had occurred, in the latter stages of the disease, several analogous symptoms.

I have but few further observations to make, and these relate to the appellation of the poison. It is sold under the name of acid of sugar—one seemingly innocent, and too well calculated to conceal its deadly effects. It has been proposed, that the venders of this article should be obliged to sell it in a liquid state, and largely diluted, but this proposition is not to be effected. Persons travelling, or leaving England, will not be induced to carry gallons of liquid, when a small vial of the salt will equally suffice. Possibly giving the drug its real name, or a popular name derived from its component parts, would set individuals on their guard respecting its use. Might it not be sold as compound of sugar and aquafortis, or caustic compound of sugar and nitre?

The Editors of the Medical Repository have taken this ques-

tion into their consideration, and have called public attention to this point. Their suggestions, however, have not yet produced evident effects, farther than to procure a certain degree of public gratitude to themselves for the trouble they have taken relative to this subject in general.

VII.

Dissections in Convulsive Diseases. By James Thomson, M. D. &c.

If we were asked to bring forward proof of the insufficiency of nosology to fulfil those praises it has laid claim to, I conceive we could not adduce a more perfect example than in reading over the class of nervous diseases. These receive different denominations, as they occupy different parts of body; and from the rapid combination and transition of symptoms in the course of a few days, a patient may have passed through the greater part of the nosological calendar of nervous affections. The more scientific principles on which the professors of the French school found their systems of nosology, exempt them from many of the objections urged against their predecessors on that subject; but even then we could easily show, were it necessary, that nature has modes of proceeding, which cannot be embraced by any artificial arrangement.

It was at first my intention to have offered you some remarks on the analogy of these nervous affections; but, at present, I can communicate only such observations as I have had an opportunity of making since my residence in this island.

Every one, at all conversant in morbid dissections, must have expressed his astonishment at the trifling nature of those appearances which the scalpel points out as the causes of those tremendous symptoms that occurred during life. Many medical men, I know, carry this idea so far as to reject entirely the assistance of morbid dissections in nervous affections. Not despairing of obtaining information, I determined, in the first instance, to examine the body. This was not long awanting, from the too frequent occurrence of the trismus nascentium, a disease that proves fatal in spite of every precaution and the most powerful practice.

From what I have been able to observe, this disease occurs much less frequently than is imagined, that is to say, that many other affections are referred to it that have a very distinct origin;

for example, the negro women are exempted from labour, when they declare themselves a few months advanced in pregnancy; yet such is their avaricious disposition, that they carry immense loads of provisions, and to a great distance, even when near their time. The effect generally is premature labour, bad presentations or weakly children; and the midwives are so officious, that they allow nature no time, and thus produce such serious injury as to cause death shortly after delivery. If we abstract the above fact, and then add to it the liability of all the diseases of children to terminate in convulsions, we will see good reason for diminishing the frequency of death from trismus nascentium.

Case I.—A negro child, born of a healthy mother, her third labour, took the breast soon after delivery; the navel was properly cut and dressed twice daily with equal parts of oil, turpentine, and aqueous solution of opium; two drops of laudanum and a tea-spoonful ol. ricini were given, which freely evacuated. This plan was continued till the sixth day, when, towards the evening, the child refused the breast, seemed much distressed with drawing back of its head, the eyes fixed, and a slight strabismus of one of them. The bowels were freely open, and the navel looked quite clean. The jaw in the morning was fixed; the hands clenched; occasional convulsions in the feet. Died on the night of the seventh day.

Dissection.—Bowels natural; no accumulation of any matter; heart, lungs, &c. natural; surface of the brain natural; tea-spoonful of water in the ventricles; the cerebellum, and parts adjoining, bore distinct marks of increased vascular action. The spine was completely opened, and the membranes and nerves, as far as the first dorsal vertebra, were considerably reddened; below that, the spine was not materially altered. The cervical nerves were traced, and in their course had no marks of diseased action near them.

Case II.—An apparently well formed negro child was seized on the seventh day with stiffness of the jaw, all other parts free from spasm. Died on the ninth. This child was treated as the last in every respect.

Dissection.—The only morbid appearance that was found, after every cavity was opened, consisted in increased redness, bearing all the appearance of inflammation along the cervical portion of the spine. The membranes and exit of the nerves were particularly coloured; no serum was effused; the course of the nerves bore no mark of inflammation; the fauces slightly inflamed.

Case III.—A female negro infant, on the sixth evening, was

seized with the usual symptoms of locked jaw; I ordered repeated immersions in the warm bath; a large blister to the neck, reaching down within two inches of the sacrum, and three inches broad. Previously the cupping-glass (for want of leeches) was used to the back part of the neck; the bowels were freely open. The symptoms were less urgent next morning, but towards evening the child was seized with a tremendous convulsion, in which it expired.

Dissection—two hours after death, showed a considerable effusion of water, rather turbid, on the back part of the brain; and along the whole course of the spine, which was carefully examined, there was no unusual redness, but the blood-vessels were more than ordinarily large; there was disease in no other part.

Case IV.—A fine stout negro happened to get intoxicated in the evening, when returning with the waggon. By some means his scalp was dreadfully lacerated, the right ear torn off, and the nerves of that side severely hurt. He was immediately dressed; the wounds appeared to heal pleasantly, and there was no fever. On the eleventh day, he complained to me of stiffness in the jaw. I imagined that it was merely irritation from the temporal muscle being torn. Next morning it was worse. I then took the alarm; the spine was blistered; the warm bath freely used, and the aqueous solution of opium to a great extent. His bowels answered freely; the symptoms were milder next day and the following. But in endeavouring to swallow some liquid, he was seized with a convulsion, the remembrance of which strikes me with horror. It seemed to be the last effort, for the muscles became relaxed, and he expired on the 15th day from the time he received the injury.

Dissection—in three hours after death. That portion of the spinal marrow that sends off the cervical nerves, was of a very different appearance from the lower part; the inflammation was quite distinct, and although the ramifications could not be distinctly traced from the confusion of the parts, yet there was sufficient evidence to show that, in their course, there had been increased action of the vessels. The other organs were all healthy.

I have by me other dissections, but in these the spine was not particularly examined, which diminishes their value. If, however, in the prosecution of this subject, (and I shall avail myself of every opportunity,) a similarity of morbid appearances present themselves; we shall have evidence of the seat of the disease, and means to oppose its progress. It will also do away with the idea of the wound at the navel being the cause of it, than which

nothing can be more erroneous in every instance in which I have examined the navel, even when the body was not opened. There was nothing to cause so much irritation. We may observe, in these cases, that purgatives were regularly administered. I took particular care to keep the bowels freely open, but without any material benefit. I feel ready to acknowledge the utility of purgatives in most spasmodic affections, yet the hopes held out by the author of the Treatise of Purgative Medicines, appear to me too great, and particularly so in the subject of tetanus. I am sorry to differ from so able a physician, and especially as he expresses his opinion with so much modesty and diffidence; yet the cases given in the *appendix* on tetanus, have certainly not the smallest claim to that title. The two first are, in my opinion, examples of colic, or what we call here dry belly-ache; and as for the third, it is certainly a new fact, that lock-jaw should continue for twelve months, as the patient herself admitted. These cases afford another proof of the imperfections of nosology. I may be wrong in giving them the name of colic; but what signifies a name? it cannot cure the disease. The shades and combinations of disease must be determined by the judgment of the physician, not by reference to any system of nosology. The following case of dry belly-ache will confirm the above observation:

A respectable gentleman, who was by no means given to the improper use of spirituous liquors, but whose professional duties led him to be much exposed to the vicissitudes of this climate, was attacked with severe spasm of the bowels, the muscles of the abdomen quite contracted, the most severe pain in the legs, and the calfs as hard as a piece of board, the excruciating torture was such, as to cause him to writhe his body in the most violent manner; he would seize the bed-post, and struggle like a person labouring under the severest spasm of tetanus. These motions, he said, were nearly involuntary; he expressed the sensation of pain in the back, by comparing it to the application of red hot iron. The bowels were constipated, and the urine high-coloured; he was bled and judiciously treated by the use of antispasmodic medicines, and afterwards mild laxatives, which operated freely. Two years from the period of the first attack, from being much exposed to the weather, the same symptoms again made their appearance; the spasms were more severe. He had the misfortune to have for his medical attendant, a young man just come to the island, and who had never seen a previous case of the disease. From the obstinate state of the bowels, he attacked that symptom first. Large pills of calomel and gamboge were given every hour, till nearly 40 grains of the former were administered, without the smallest evacuation next day. Glysters and pills of the same

composition were given, and yet no operation. He became alarmed, and sent for the gentleman who had formerly attended him in the first fit of sickness. The usual antispasmodics were then freely given, and in one hour, the most copious evacuations followed, with great relief. The calomel took effect on the mouth, and a partial paralysis followed, which continues till the present time, though every remedy has been tried to remove it.

This case teaches us an important lesson, in regard to the using strong purgatives in these spasmodic diseases, without the proper combination of other remedies. The above case is not a solitary one. I have had detailed to me many others, by the venerable author of many communications, in the letters by *West India Practitioners*, who, after 50 years experience in this island, has found no reason to alter the opinions delivered in the essay on the dry belly-ache. This complaint is now comparatively rare, owing to the improvement in morals, and to the inhabitants going warmer clothed. Nothing can be more erroneous, than in attributing it to the poison of lead. When paralysis does follow, it may, in most cases, be referred to the erroneous mode of treatment.

Although I have endeavoured to prove, that in some nervous affections, an uniformity has been found in the derangement of structure, yet we are often miserably disappointed in our expectations of morbid appearances. I have by me the history and minute dissection of a well-marked case of hydrophobia, where every organ was successively laid open, and particularly the spinal canal, yet not the smallest trace of morbid structure could be detected. In several severe cases of hysteria, where every remedy had been used, the bodies were opened for satisfaction sake, and the spinal canal minutely examined; yet nothing was found of any consequence, which could be looked on as a cause for any one symptom that happened during life.

The present practice in nervous affections is trifling, and the indications of cure in the same case too often contradictory. Whatever, therefore, may tend to assist us in giving reference to a particular spot, as the cause of the numerous symptoms, will give our practice the appearance of stability, however unavailing our efforts may be to give relief to the patient.

St Thomas in the Vale, Jamaica, 1818.

VIII.

Effects of Venesection in certain forms of Dropsy. By Adam Hunter, M. D. Fellow of the Royal College of Surgeons, Edinburgh.

Dear Sir—Dr Abercrombie having, in a late number of your Journal, presented to our notice an extensive and well connected series of opinions and facts regarding the mode of treatment adopted by the ancients in certain cases of dropsical affections, and supported them by the relation of several interesting cases, in which the same practice was instituted by himself, and found successful, I was led to try the effect of the same treatment in the following highly interesting and instructive case, and, I am happy to say, with the most beneficial result.

Why the powerful remedy of venesection was altogether abandoned in dropsical complaints, seems to meet with a satisfactory explanation, as Dr Abercrombie has pointed out, in the false theories engendered under the doctrines of the humeral pathology. From whatever cause, however, the use of the lancet was deprecated in affections of this nature, it seems to have acquired, by length of time, a species of prescriptive right in the practice of physic; and the practitioner who would have acted in violation of the established dogma, would have been looked on as a fiend waging war against suffering mortality, and spreading death on all sides with a two-edged weapon. To Dr Abercrombie, therefore, are we indebted for renewing a practice which had become obsolete, for setting it forth with all the imposing authority of antiquity to sanction it, and for supporting it with the result of his own satisfactory experience.

When an opinion, in any degree novel in the practice of physic, either from its originality, or, what approaches nearly to the same thing, from its revival, after lying long in obscurity and neglect, is obtruded on the world, it becomes the duty of every member of the profession to repel its dangerous tendency by facts, if it should not be found correct, or to support it by every energy in his power, should it be found true. It is under this latter impression that I feel happy in being able to contribute my mite.

C. O. æt. 42, married.

About the beginning of June, I was requested to see this patient, who, having accidentally received a blow on an anasarcous

leg, was alarmed, from the appearances it had assumed, it would prove of serious consequence. On examination, I found situated about the middle of the right leg, which was prodigiously swelled, the mark of a blow, surrounded for the space of three or four inches by inflammation of an erythematic character, attended with a sensation of tension, and burning pain, and studded in various parts with minute vesications. In the immediate vicinity of the injury were distinctly perceptible the various colours of livid blue and green, of impending gangrene, and not those arising from ecchymosis in its progressive stages of absorption. The cuticle of the whole limb, except the part described, was of a deadly pale waxy hue, with a polished glistening surface, and in some places, beset with fissures, which gave vent to a serous oozing. The left leg was equally swelled, but without the gloss of the right:—the arms, hands, and face, shewed the same marks of general dropsical diathesis. The abdomen was very tumid, but seemingly more from effusion into the cellular membrane of the *parietes*, than accumulation in the *cavity* of the peritoneum. Pulse small and weak, but the surface at the wrist was so much raised above the artery by the effusion, that it could be with difficulty felt. Some thirst; bowels costive; urine very scanty, thick and muddy.

About fourteen years ago, became asthmatic from exposure to cold, which has continued to recur in paroxysms ever since. Five years ago, the menstrual discharge did not take place on weaning the youngest child. Soon after she felt her general health much out of order, and swellings began to appear in her limbs, slightly and evanescent at first, but long since become extensive and permanent. The menses had hitherto continued very irregular. Had used a great variety of means, and applied to many medical men, but had experienced little or no benefit.

The remedies prescribed at the first visit, and continued for a fortnight with little apparent benefit, were combinations of the various diuretics; dusting the limb with an absorbent powder, and placing it in a horizontal position. Dissatisfied with the progress of the case, and at this time re-perusing Dr Abercrombie's paper with care, and studying the cases, authorities, and inferences, I was led, but not without numerous ill-defined apprehensions, to adopt the same practice, and abstracted about ℥vi. of blood. The evacuation was borne without any unpleasant occurrence, and next morning the patient expressed herself relieved. Two days afterwards, the quantity of urine was increased, and the swelling diminished. The diuretics appeared now to be affecting the kidneys, and the improvement was progressive for ten days, when the quantity of urine again diminished, and became muddy, and the swellings resumed their former magnitude. For three or four days

these unfavourable changes went on without amelioration; when the patient told me it was about the period at which the menstrual discharge should have appeared, but had not. No longer dreading the effect of depletion, I now took ℥xiv. of blood from the arm, gave her two or three doses of gamboge, and cream of tartar, and then resumed the use of the diuretics. The improvement from this time was singularly rapid; the urine became clear; was evacuated in quantities of lb. ii. and lb. iij. daily; and the swellings decreased, until, in the woman's own words, she had pined away to nothing. It was at this stage of the case that Dr Abercrombie accompanied me to see the case, and was so much pleased with the result, that he requested me to give notice of the case through the medium of your excellent Journal. I was, however, anxious to watch it till a more distant period, and postponed it till now, when, from the occurrence of an acute attack of pneumonia, in the same individual, which required the evacuation of ℥ix. of blood within 48 hours, to subdue the pulmonic symptoms, I can no longer resist Dr Abercrombie's wish, as from the occurrence of this acute disease, and the activity of the measures that were found necessary to conquer it, the case has become one of the most satisfactory description in support of the practice, and points out, that, with due precautions, venesection may be adopted in dropsical cases of the most unpromising character, with prospect of ultimate advantage. Three weeks have now elapsed since she was convalescent from the pneumonic attack, and not the slightest appearance of dropsical effusion exists.

Another case of an equally interesting nature occurred to me a short time previous to the one just detailed, in the person of the patient labouring under the affection of the heart and arterial system, which forms the subject of the first case in the valuable Clinical Reports just published by yourself.

After leaving the hospital, the patient again came under my care, when the same means, viz. occasional blood-letting, digitalis, &c. were resorted to, and attended only with the same temporary alleviation. During the farther treatment of the case, the swelling of the limbs increased to an enormous extent, and the skin, being put completely on the stretch, possessed a smooth glistening polished surface, and was so tense as scarcely to yield to the pressure of the finger. In this state, having procured large shoes, and cut them up in front, he imprudently forced them on his feet, and walked about for a length of time, and when he came home, he found that the skin of the fore part of the left foot was abraded. A few days after this, at one of my regular weekly visits, I found situated on the front of the foot a foul sloughing sore, with dark edges, with erysipelatous inflammation, covering the foot, and ex-

tending midway up the leg. For two nights he had suffered much more severely than at any former period, from pain in his chest, and terrific dreams, when he happened to fall asleep in the recumbent posture. The secretion of urine had been diminished for some days, and the digitalis, having disagreed with the stomach, was discontinued.

His situation now appeared critical, and I felt myself placed in a dilemma from which I knew not how to escape. For his chest affection, experience had taught me that venesection was the *unicum remedium*, but from adopting it I was deterred by the state of the foot, for the effusion did not appear to me at any period to depend on obstruction existing to the free transmission of the blood, the pulse being always *full and regular*, the countenance *clear*, and the lips of a *bright vermillion tinge*, till now, when depletion had rendered them pale, but without lividity, states which, I conceive, cannot be reconciled with organic disease diminishing any of the apertures of the heart; but the effusion seemed actually to depend on the extent to which the depletion had been carried, the patient having lost, in a few months, not less than 250 ounces of blood, and the last evacuation shewing that fluid to be in a very watery condition. As he was himself aware of the relief that bleeding afforded, and as his chest affection had become extremely urgent, he was anxious to have some blood abstracted, which I was induced to comply with, and took away ℥xvi. with immediate relief. A poultice was ordered for the sore, and a horizontal position for the limb. Dreading the consequences of the loss of blood upon the state of the sore, I made an early visit next morning, and found he had passed a much better night, complained less of tension of the limb, and of the burning pain of the sore. For several days the sore retained a foul sloughing appearance, but did not extend in circumference. The swellings of the limbs began evidently to diminish, with the progress of which the improvement in the state of the sore kept pace, and in three weeks from the date of the bleeding, the sore was healed, and the swelling so much reduced, as to enable him to put on his own shoes. Shortly after this I lost sight of him, till about a month ago, when I saw him walking about the street in idle company. I am, Dear Sir, yours very sincerely.

George Street, 6th October 1818.

IX.

Case of Diseased Peritonæum, with Hydatids and Tubercles. By DAVID HAY, M. D. Fellow of the Royal College of Surgeons, Edinburgh, and one of the Surgeons to the Royal Public Dispensary.

THE subject of the following case was a lady in the 36th year of her age. She had been married three years, but had no family. Previous to her marriage, she enjoyed good health, notwithstanding her habits of sedentary occupation and confinement to the house. A few months after she was married, she was attacked by acute rheumatism, which proved remarkably severe, but yielded to general blood-letting, and the antiphlogistic treatment. From that time till within ten or eleven months of her death, her health was good; but from this period it began to decline, and the abdomen to swell. Little attention, however, was paid to this circumstance for two or three months, as the menses continued regular.

About the end of July, Dr Hamilton, jun. was consulted, the lady supposing herself six or seven months gone with child. He immediately ascertained that she was not pregnant, and that the swelling of the belly arose from the effusion of a fluid into its cavity. He recommended that I should be sent for to attend her, having had charge of her in her former illness.

I found that the menses had been suppressed for seven months; that occasional sickness was experienced in the morning; the breasts flabby; the countenance sallow and sunk; and that considerable emaciation had taken place; the tongue was red and excoriated; the bowels were free, verging to looseness; the skin soft and perspirable; the urine scanty and loaded, but not coagulable, and the pulse was quicker than natural, with an increase of frequency towards evening.

On careful examination of the right hypochondriac region, an irregular hardness was to be felt in the situation of the liver, but no pain or tenderness on pressure. The swelling of the abdomen, although considerable, was not tense, but gave a distinct sense of fluctuation.

Every variety of diuretic medicine was used without benefit; the stomach became irritable, so that there was a necessity for laying them aside. Mercurial friction over the right side was tried without advantage. At one time sudorifics seemed to diminish the swelling, but were desisted from, as they tended to ex-

haust and weaken. Latterly opiates alone were employed to procure sleep and relief, or remove the sickness and vomiting with which she was frequently distressed. She died on the 20th of September, completely worn out.

Dissection.—The cavity of the abdomen contained about four quarts of a thick coagulable fluid, so viscid that it could with difficulty be made to run through the canula of a trocar which had been introduced to draw it off; it had little smell, and its colour was a greenish yellow.

When the integuments, muscles, and peritoneum, were divided and turned back in the usual manner, a singular appearance presented itself. The whole of the peritoneal membrane had undergone an alteration in texture, excepting the portion covering the upper surface of the bladder, which was unusually delicate. It had become whitish, firm, and granulated. From its surface numerous fleshy and vascular appendiculæ, or tubercles, hung suspended like grapes into the cavity of the abdomen. They varied in size and in their mode of attachment, some hanging by narrow necks, others were more firmly fixed in their situation.

The peritonæum lining the muscles of the abdomen, and the diaphragm was thickly set with the tubercles, and one attached immediately behind the umbilicus gave the appearance and feeling of a hernia in this situation.

The omentum had become a strong leathery membrane, covered by numerous tubercles and hydatids containing an amber-coloured fluid.

The surface of the stomach and intestines was granulated, with few tubercles growing from them, but the mesentery and mescolon were thickly studded with them, and here and there an hydatid was perceived; one particularly large was found under the arch of the colon.

The liver was almost entirely changed in its appearance and structure; the anterior edge was fringed, and had numerous tubercles depending from it. Its colour was white, its texture firmer than natural, and resembled that of the tubercles growing from the surface of the peritonæum in general. A small portion, with the gall bladder distended with bile attached to it, retained its healthy structure. The size of the organ was natural.

The peritoneal surface of the spleen was also granulated, and had some tubercles growing from it.

The kidneys were sound.

The uterus was scarcely to be distinguished; its surface, and that of the ligaments, were tuberculated, and much changed from their natural state. A large hydatid existed in its centre.

The chest was not examined, as there were no symptoms of pulmonary disease.

Since meeting with this case, I have endeavoured to find in the works of morbid anatomy something similar, but have not been successful in my search. Dr Baillie takes notice *of scrofulous masses adhering to the peritoneum*, but the description does not accord with my patient's disease. The granular structure was evidently interstitial, and appeared to have arisen from chronic inflammation and the effusion of coagulable lymph.

The alteration in structure in the liver does not resemble accurately any of the tubera described by Dr Farre. The disease evidently had extended from the peritoneal surface to the substance. A portion in the centre of the organ continued to perform its functions, and seemed to have taken on an increased action, the gall bladder being as fully distended and large as when the whole organ is found in its most healthy state.

My friend, Professor Thomson, has been so kind as to show me the account of a dissection he had made, in which a partial alteration of the peritoneum existed, of a similar nature with that I have described, particularly of the portion lining the muscles of the omentum and mesentery. Soft and vascular tubercles were found adhering to these parts, and several larger than the rest were situated in the vicinity of the caput coli, so as to compress this portion of the bowels. During life the patient suffered from frequent attacks of ileus, and died in consequence of this disease.

8th October 1818.

PART II.

CRITICAL ANALYSIS.

I.

Surgical Essays. By Astley Cooper, F. R. S., Surgeon to Guy's Hospital; and Benjamin Travers, F. R. S., Surgeon to St Thomas's Hospital. 8vo, London, 1818. pp. 264.

The names of the authors of this volume sufficiently guarantee its value. We have only to explain the plan of its publications, and to indicate its contents. Of the former we most unreservedly approve. It is intended to publish, from time to time, practical essays, containing the results of the surgical experience of the authors, in the extensive establishments of St Thomas's and Guy's Hospitals.

"The variety which of necessity occurs in the practice of the Surgeons—the facility afforded to them in their respective plans of treatment—the opportunities of improving the practice of Medical Surgery, of observing the results, general and comparative, of operations of every description, and especially of prosecuting inquiries into morbid anatomy, by prompt examination of the dead body, and of parts removed by operation, are advantages which, while they afford ample compensation for the labours of clinical research, would allow no pretext for indifference in those, who, conscious of their value, were not influenced by an ardent desire to improve and im rt them."

Indeed, there is scarcely an idea expressed in the preface, in which we do not fully concur. Marvellous cases occur in private practice as well as in large hospitals, but it is only in the latter that that multiplied and accurate experience can be acquired, which renders common occurrences the chief means of advancing our profession. We, therefore, ardently desire that the example of our authors should be generally imitated, and that reports should be periodically published from other con-

siderable hospitals. We mean professional reports, in which there should be, at least, a condensed view of the results of the aggregate practice, to which might be added a detail of the marvellous cases, and occasional practical essays on the more common diseases. We regret that the plan of our authors does not extend to the first of these views, and we are certain that, though they might find it impossible to satisfy themselves in this particular, any attempt towards it by them would be gladly received by the profession.

In the present volume there is but one marvellous case, but it is truly *marvellous*,—no less than cutting up a man alive, and tying the conduit by which the vital fluid is conveyed to half the body. It was the boldest feat ever performed by a son of Machaon, but although unsuccessful, it was fully warranted from the circumstances of the case, and the patient's life was undoubtedly prolonged, which is often all that we can expect, even by our success. Not many years ago, the tying of the carotid artery was regarded as inconsistent with the continuance of life, and now it is practised to facilitate the removal of a tumour, or to give a chance of relief from pain. After successfully applying a ligature to the common iliac artery, the tying of the aorta itself was but a step farther, which the boldness of modern surgery might be naturally expected to make when the urgency of the case required it. Such a case occurred to Mr Cooper. The operation was determined upon because the man was in immediate danger of bleeding to death from a rupture of the left iliac artery. It was performed on the 25th of June 1817, (about 10 P. M.) An opening almost three inches long was made through the parietes of the abdomen, in the *linea alba*. The intestines did not protrude. The dorsal peritoneum was divided by scratching with the finger nail. A ligature was passed around the descending aorta, and tied. The ends were left hanging from the external wound, which was brought together by suture and adhesive plaster. During the operation the feces passed off involuntarily, and immediately after it, and for an hour, the pulse was 144. He got 30 drops of laudanum. At midnight his pulse was 132; at 1 A. M. he complained of heat in the abdomen, but said that his lower extremities, which were cold soon after the operation, were regaining their heat; his body in other parts was covered with a cold sweat. At 2 A. M. he felt so comfortable from his medicine that he got ten drops more; his legs were wrapped in flannel, and bottles of hot water applied to his feet, and he then said that the heat of his belly was lessened. At 6 A. M. the sensibility of his lower limbs, which had been very indistinct since

the operation, was still very imperfect. At 8 A. M. he felt quite comfortable. At noon the temperature of the right limb was 94, that of the left 87½. Soon after 3 P. M. he complained of pain in the abdomen, but it was not very severe, and did not last long. As he had no evacuation, he was ordered an enema. At 6 P. M. he vomited, soon after the glyster was administered: the heat of the right leg 96; of the left 87½. At 9 P. M. he took half a glass of port wine in warm water, which he immediately rejected; his pulse was 104, and feeble; he complained of pain in the loins, was very restless, and had an involuntary discharge of feces. At 11 P. M. he still vomited; pulse 100, and weak.

"At 7 A. M. the report was, that he had passed a restless night; the vomiting had returned at intervals; his pulse 104, weak and fluttering; he complained of pain all over his body, more particularly in his head; and the carotids beat with considerable force; he had great anxiety expressed in his countenance, was very restless, and the urine dribbled from him, with some degree of pain at the end of the penis.

"At 8 o'clock A. M. the aneurismal limb appeared livid, and felt cold, more particularly around the aneurism, but the right leg remained warm.

"At 11 o'clock his pulse was 120 and weak; he appeared to be sinking. To the questions which were put to him he did not return any answer; he appeared to have an uneasiness about the heart, as he kept his hand upon the left breast.

"He died at 18 minutes after one P. M. having survived the operation 40 hours."

"When the abdomen was opened, we found not the least appearance of peritoneal inflammation, excepting at the edges of the wound. The omentum and intestines were free from any unnatural colour; the edges of the wound were glued together by adhesive inflammation, excepting at the part at which the ligature projected. We were much gratified to find that the ligature had not included any portion either of the omentum or intestine: the thread had been passed around the aorta about ¾ of an inch above its bifurcation, and about an inch or rather more below the part at which the duodenum crossed the artery. Upon carefully cutting open the aorta, a clot of more than an inch in extent was found to have sealed the vessel above the ligature; below the bifurcation, another, an inch in extent, occupied the right iliac artery, and the left was sealed by a third, which extended as far as the aneurism; all were gratified to observe the artery so completely shut in 40 hours. The aneurismal sac, which was of a most enormous size, reached from the common iliac artery to below Poupart's ligament, and extended to the outer side of the thigh. The artery was deficient from the upper to the lower part of the sac, which was occupied by an immense quantity of coagulum."

Such are the most important particulars of this *unique* operation; and we think the whole history of the case would justify a repetition of it in similar circumstances. We agree with Mr Cooper in thinking that inflammation was not the cause of the man's death; but we cannot so readily accede to his idea, that it was owing to want of circulation in the aneurismal limb, unless in so far as it was connected with the great and sudden derangement of the general circulation caused by the ligature of the aorta. It is probable that there was an oppressive accumulation of blood in the left side of the heart, and in the lungs, and we regret that there is no notice of the state of these organs. Should the operation be repeated on a less exhausted subject, we would suggest the propriety of venesection immediately after it, to the greatest extent the patient could bear. Mr Cooper prefixes to this case several facts which render it probable that the circulation might be carried on, although the descending aorta should be tied. Besides his own experiments of tying the aorta in dogs, he notices cases of constriction of the aorta in the chest by Dr Graham of Glasgow,* and M. Paris of Paris,† and an unpublished case, in a patient of Mr Winstone, which was inspected by Mr Cooper himself. He adds, that he has met with no instance in the human subject of the constriction or obliteration of the aorta in the abdomen. But an instance of this occurrence, lately observed at Paris completes the series, and shews the manner in which the circulation is carried on, when the aorta is gradually obliterated near its bifurcation.‡

Dr Goodison found, in the body of a woman brought for dissection, the cavity of the aorta obliterated, from the origin of the lower mesenteric artery to its bifurcation. The arch of the aorta was very much dilated, also the intercostals, which formed considerable anastomoses with the internal mammary artery. The spermatic arteries were enormously enlarged. The arteries which pass between the fourth and fifth lumbar vertebræ were prodigiously increased in size. The circulation of the lower extremities was carried on in the following manner: On the left side, a branch of one of the intercostals followed the outer edge of the psoas muscle, half its length; then passed between the transverse and internal oblique muscles, till, near the posterior inferior spinous process of the ilium, it anastomosed with the internal mammary arteries, and the trunk resulting

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* Medico-Chirurg. Transactions, Vol. V.

† John Bell's Surgical Observations.

‡ Nouveau Journal de Medecine, T. II. Juin 1818. Bulletin de la Faculte de Médecine de Paris, p. 138.

from this junction, increased by some other branches from the lumbars, conveyed the blood into the external iliac by means of the circumflexa ilii which was enlarged to the size of the iliac itself. On the right side, the course of the blood was nearly the same, until the anastomosis of the mammary and intercostal. The blood was then conveyed by a very large branch which followed the course of the crest of the ilium from the posterior inferior spine of that bone, till within an inch of the anterior inferior spine, when it plunged at a right angle directly into the pelvis, and opened into the external iliac a little above its middle. All the enlarged vessels were more or less tortuous and spiral in their course. The obliterated portion of the aorta was imbedded in a very thick gelatino-cartilaginous substance, and was lined with ossification. Nothing could be learnt of the symptoms preceding death.

Mr Cooper has also inserted in this volume two essays, both of them extremely valuable in a practical point of view from the cases detailed and the remarks subjoined; and although we readily admit, that, "for the literary composition of the work, its nature and the avocations of the editors" render apology unnecessary, we cannot help regretting, that, for neglect of a little more attention to what is in reality a very secondary object, their treatises should have the appearance, for it is only the appearance, of being written without method.

In the essay on Dislocation, Mr Cooper treats nearly in succession of the following general points: Definition, symptoms, consequences, causes, kinds, modes of reduction and obstacles to reduction. He then discusses the dislocations of the hip-joint in particular, upwards on the *dorsum ilii*; downwards in the *foramen ovale*; backwards in the ischiatic notch; forwards on the pubes; and lastly describes the fracture of the *os innominatum*. Those who are interested in this subject, that is, all surgeons and general practitioners, must possess and study the whole essay. To others an abstract or abridgment would be useless. Mr Cooper considers that the difficulty in reducing dislocation principally arises from the resistance which the muscles give by their contraction, and which is proportioned to the length of time which has elapsed since the injury. The contraction which is here meant, is not that produced by volition, which is always an effort to overcome the action of antagonist muscles, and is soon succeeded by corresponding relaxation; but that which arises from the tendency of muscular fibres to shorten themselves when the action of antagonist muscles in other causes preventing it, is removed. This contraction is unattended with effort and is permanent, and when

continued for a length of time becomes organic, and opposes an almost irresistible obstacle to the stretching of the muscle to its natural length. It occurs in dislocation from a change in the position of the head of the bone; but we also see its effects in stiff joints, where the fixed points remain in their natural position, and the organic contraction of the muscle has arisen merely from its having remained long in a state of contraction. In this case the joint has free motion to a certain extent but the rigidity of the muscle resists its further extension or flexion suddenly, as a cord or other inelastic stay would do. Besides the mechanical manœuvres by which reduction may be attempted, Mr Cooper, in conformity with his opinion of the cause of resistance, endeavours to reduce the power of the muscles by producing a tendency to syncope by abstraction of blood, immersion in the hot-bath, and exhibiting nauseating doses of tartarized antimony. In the following observation we have a curious instance of the power of unconscious, we had almost said involuntary, volition.

"Great advantage is derived in the reduction of dislocations, from attending to the patient's mind; the muscles opposing the efforts of the surgeon, by acting in obedience to the will, may have that action suspended by directing the mind to other muscles. Several years ago a surgeon in Blackfriars Road asked me to see a patient of his with a dislocated shoulder, which had resisted the various attempts he had made at reduction. I found the patient in bed with his right arm dislocated; I sat down on the bed by his side, placed my heel in the axilla, and drew the arm at the wrist; the dislocated bone remained unmoved. I said, Rise from your bed, Sir; he made an effort to do so, whilst I continued my extension, and the bone snapped into its socket; for the same reason, a slight effort, when the muscles are unprepared, will succeed in reduction of dislocation, after violent measures have failed." p. 25.

The five plates, containing seventeen figures, illustrating this essay, are worthy of imitation by professional authors in general. Although not costly, they are exceeding neat, and, without any pretensions, express perfectly what they are intended to represent.

Mr Cooper's essay on exostosis is equally interesting. He begins, as before, with some generalities.

"Exostosis has two different seats; it is either *periosteal* or *medullary*. By the *periosteal* exostosis, I mean a deposition seated between the external surface of the bone, and the internal surface of the periosteum, adhering with firmness to both surfaces; and by the *medullary*, is to be understood a formation of a similar kind, originating in the medullary membrane and cancellated structure of the bone.

"With regard to its nature, exostosis is of two kinds, either *cartilaginous* or *fungous*. By the *cartilaginous*, is intended to be expressed that species which is preceded by the formation of a cartilage, which forms the *nidus* for the ossific deposit: and by the *fungous*, is to be understood, a tumour of softer structure than cartilage, yet firmer than fungus in other parts of the body, containing spicula of bone, malignant in its nature, depending on a peculiar state of constitution and action of vessels: a disease similar to that which Mr Hey has denominated *fungus hæmatodes*, but somewhat modified by the structure of the part in which it originates." pp. 155, 156.

He next considers the different parts of the skeleton in relation to their liability to be affected by this disease. He then describes more particularly its four varieties in succession; the fungous exostosis of the medullary membrane; the cartilaginous exostosis of the medullary membrane; and the fungous exostosis of the periosteum, and the cartilaginous exostosis of the periosteum. The fungous exostosis of both kinds, after a certain stage, is absolutely incurable, except by amputation of the limb on which it is situated, and even this operation is often unsuccessful, as it only occurs in constitutions generally diseased.

"In the treatment of this complaint, we have not only to combat the local disease, but likewise to effect a change in the constitution in which it occurs. When it has, however, produced any great changes of structure, or occasioned very considerable increase of parts, no medical means will suffice to restore them, or prevent the fatal tendency of the complaint. But in the commencement of any deep-seated disease in bone, the best medicine, so far as I have had opportunity of observing, is the oxymurias hydrargyri in small doses, given either in, or with, the decoct. sarsaparillæ compositum. This mercurial medicine, by reproducing the natural secretions of the body, and the sarsaparilla, by lessening its irritability, restore the general health, and will sometimes crush in its bud a disease, otherwise likely to become formidable, and at the same time prevent the formation of a similar affection in other structures.

"The local treatment consists in the application of leeches, if there be pain, and of blisters, taking care to keep up the discharge from their surfaces by means of equal parts of Ung. Hydr. and Ung. Sabin. Should the disease, however, after all, refuse to yield to these means, the patient is, by the constitutional remedies, rendered a better subject for the removal of the part by amputation or excision, which becomes then the only resource." pp. 169, 170.

The cartilaginous exostosis, on the contrary, in some cases undergoes a spontaneous cure, that is, ceases to enlarge, and acquires the structure of healthy bone; and in other cases the cartilage may be successfully removed. For the modes of ef-

fecting this we must refer surgeons to the work itself. This subject is illustrated by two plates, containing fifteen figures.

Mr Travers has also three papers in this volume. The first is on Iritis, by which he means the deep-seated inflammation of the eye. "It appears in company with rheumatism of the chronic form, sometimes with gout; with the constitutional signs of lues venerea; and during or following the action of mercury upon the system;" and it is in reference to the two latter associations of iritis that Mr Travers principally considers it in the essay before us. As iritis most frequently occurs in persons using mercury for the cure of syphilis, Mr Travers discusses the question, whether it be owing to the action of the syphilis or the mercury? and he concludes, that "until we see the course of the syphilitic poison genuine and unsophisticated, we shall be unable to determine the point," page 64. Now this period has arrived; for an immense number of patients have now been cured of syphilis without mercury, and in some of these iritis has occurred. We may, therefore, safely conclude, that the action of mercury is not necessary for its production in a habit tainted with syphilis; but it does not therefore follow, that it is in them a syphilitic symptom, for we know that iritis occurs in persons who have not been using mercury, and who are free from all syphilitic taint, and there seems to be no reason why it may not occur from the same causes in syphilitic persons. Again, iritis has been observed in persons who are using mercury for complaints not connected with the genitals. But this occurs so rarely, that it is more probably accidental, than the effect of the mercury. Still, although neither mercury nor syphilis are essential to the production of iritis, it must be admitted, that their conjoined operation seems to be one of its most frequent causes.

In June 1806, the inflammation of the iris was very well described by the late Mr Saunders, and it appears, that, in 1805, he was accidentally led to the employment of mercury in one case and with success; but as he considered the patient to be syphilitic, mercury does not seem to have been used by him in any of his subsequent cases. The use of mercury in idiopathic, as well as in syphilitic iritis, was first, in this country, recommended in 1816, by Dr Farre, in the second edition of Saunders's Treatise, of which he was the editor, and to him the British surgeons are solely indebted for one of the most important improvements in the treatment of ophthalmic inflammation; but while we acknowledge our obligations to Dr Farre, we must perform an act of justice to the oculists of Vienna, who certainly anticipated us in this improvement. Mr Travers, when speaking of the

recent employment of mercury in iritis, subjoins in a note the following observation, which requires correction: "Its effect is but partially known on the continent. I am sorry that I have it not in my power to refer, in proof of this opinion, to a modern Latin tract on the Inflammation of the Eye, which I some time ago perused." The tract, or volume as we could rather denominate it, to which, in all probability, he refers, is the excellent systematic dissertation of Benedict, De Morbis Oculi Humani Inflammatoriis, containing 306 closely printed quarto pages, and published at Leipsic in 1811.

"Quando autem iritidem curaveris simplicem primo sinapismus nuchae, atque deinde rubente ibidem cute brachiis simili modo, ut ruborem tantum excitet, imponatur. Eodem tempore, quo sanguinis collectionem ad alia, eaque vicina organa tali modo excitare studemus, etiam eam ab oculo discutientium localium et universalium usu amovere debemus. Quod peragitur impositione sacculorum aliqua ex parte aromaticorum, *peragitur etiam mercurii usu cum interno tum externo.* Capiat aegrotus quater per diem gran. j. Calomelanum, et bis quovis die regioni supraorbitali unguentum Neapolitanum pisi majoris magnitudine inungatur." p. 116.

Even in 1800, Professor Beer of Vienna also, in a tract entitled "Selections from the Journal of a Practical Oculist," * speaks in very decided terms of the use of mercury in various inflammations of the eye, unconnected with syphilis, as will appear from the following quotations:—

"Effectual as mercurial frictions are in syphilitic ophthalmia, I have found them equally so in various other obstinate diseases of the eye, which I shall state in order.

"In phlegmon of the eye, that dreadful inflammation, which, when not corrected in time, with the most violent intolerable pain, converts the whole eye as it were into pus, so that only a small shapeless lump remains in the orbit, I know no remedy which so quickly and certainly checks the suppuration as mercurial friction. I commonly direct the size of a hazel nut of fresh prepared Unguentum Neapolitanum, to be well rubbed into the region of the orbit every fourth hour, and these frictions to be continued until the suppuration is obviously diminished. Even when fever is present, this active remedy can be used without any fear, according to my experience; if there be no fever, or it is only inconsiderable, which is a rare occurrence, I take the assistance of three or four grains of calomel daily. If much pus be already in the chambers of the eye, it is a matter of course that the cornea must be opened, and an outlet given to the pus, for

* Auswahl am dem Tagebuche eines praktischen Augenartztes, von G. Joseph Beer. 4to. Wien, 1800. Pp. 56.

the frictions only prevent the progress of the suppuration and effusion of lymph."

"When in those ophthalmias which follow variola, an abscess or staphyloma begins to form on the cornea, the friction with ungt. hydrag. is so sure a remedy, that with certainty, an opacity or destruction of the cornea will very rarely occur.

"In arthritic ophthalmia, which is commonly accompanied by glaucoma and amaurosis, mercurial inunction, in combination with opium, gives the speediest relief, that is, they free the patient from the most insupportable pain. I have only observed one disadvantage from their continued use in asthritic persons, that they are apt to promote the dissolution of the vitreous humour already generally present. The patient indeed loses nothing by this, as his sight is already gone. But these frictions can become very hurtful in another way, as, when continued incautiously and uselessly, they must at last produce hydrops oculi. *Experientia doctus.* I therefore recommend to abstain completely from the frictions as soon as the pain subsides."

So much for the history of the discovery; and although we have seen iritis undergo a spontaneous cure, or yield to the instillation of a few drops of vinum opii, without the assistance of mercury, yet we would scarcely venture to repeat the experiment; for we agree with Mr Travers in thinking, that, with scarcely an exception, no discovery in practice is entitled to rank before the rapid saturating of the system to full salivation for the cure of iritis. It no doubt appears strange, that the same agent which most frequently contributes to the production of the disease, should also be the most certain and effectual means of cure; and we have here attempts to explain the fact by Mr Travers and his friend Dr Farre, which, however, are not so satisfactory as to induce us to enter farther into the subject at present. But the astonishing effects of the practice in arresting inflammation in a part where we can trace every change, suggests the propriety of having recourse to it along with the use of the lancet, or where that is inexpedient, in the acute inflammations of other serous membranes, and even of other structures, and most especially in laryngitis and tracheitis.

Mr Travers's second essay is on Phymosis and Paraphymosis. We are happy to find that a surgeon of so great authority, although not belonging to the sect of *antimercurialists*, should contribute so powerfully to restrict that empirical abuse of this valuable remedy, which has so long brought disgrace upon the profession, and which, from some hints in this essay, seems to have been carried further than we were aware of.

"It has upon many occasions appeared to me, that practitioners are too anxious to contend with the specific character of the venereal disease, to the neglect of the inflammatory state of the affected parts,

and of the evils which mercury produces, when exhibited during its height.

"The abuse of administering mercury for an acute gonorrhœa and recent sores, accompanied by phymosis or an approach to that state, is of common occurrence, and it is far from being recognized by the profession as an established rule of practice, that its constitutional administration is inadmissible during the existence of active inflammation in cellular textures. The gangrenous inflammation which spreads and destroys with such terrible rapidity the entire integuments of the lower opening of the pelvis in young and delicate females, proceeds, I am convinced, from the exhibition of mercury for inflamed and irritable sores, oftener than from any other cause.

"There is no class of cases exhibiting the local effects of impure intercourse in so formidable a view, in its nature so wholly distinct from a syphilitic taint, in its origin so purely casual, as that which forms the subject of this paper. That it was not formerly so regarded, nor even by writers comparatively modern, it would be easy, if it were necessary, to shew." pp. 131, 132.

It was natural enough that all venereal affections should be considered as of one nature, but it is more than half a century since Dr Balfour first pointed out the distinction between gonorrhœa and syphilis; * and after the able manner in which the doctrine was supported by Dr Duncan senior † and Professor Tode, ‡ the exhibition of mercury, so as to affect the constitution, for the cure of simple gonorrhœa, is a lamentable proof of the power of prejudice and ignorance in continuing the most hurtful practice in opposition to observation and reason. We quote the following passage from Dr Balfour's dissertation, as highly worthy of notice.

"Nonne potius suspicandum est, longe diversam esse materiam quæ luem parit ab ea ex qua gonorrhœa efficitur? Nec quidem temere in eam sententiam abiisse is mihi videbitur, qui secum reputaverit neminem gonorrhœa tantummodo laborantem confirmatam luem propagare posse; *gonorrhoeam non a mercurio tolli* et rarissime in luem commutari; luem contra non in gonorrhoeam verti; et denique gonorrhoeam non nisi triginta vel quadraginta annos post luem in Europa fuisse observatum et nuperrime tantum apud Sinenses." p. 18.

Of course the administration of mercury forms no part of Dr Balfour's method of cure, and the reduction of the inflammation is his first indication.

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* Diss. Med. Inaug. De Gonorrhœa virulenta. Auctore Franc. Balfour. 8vo. Edinb. 1767. Pp. 27.

† Medical Cases and Observations. By Andrew Duncan, M. D. 8vo. Edinburgh, 1778. Pp. 370.

‡ J. Clm. Todes erleichterte Kenntniss und Heilung eines gemeinen Trippers. *8vo. Kopenhagen,* 1774.

"1. Inflammationi obviam ire priusquam fluxus evaserit puriformis.

"2. Cum fluxus puriformis evaserit, robur pristinum vasis reddere.

"3. Symptomatibus, qua interea urgent, levamen praebere." p. 20.

Mr Travers concludes his essay with the following summary:

"It is my design, by these brief observations, to direct the surgeon's attention to the early stage of the phymosis: to recommend it as an invariable practice to examine the naked glans, before venturing upon the constitutional use of mercury; to point out the aggravation occasioned by an habitual though partial retention in the state of extreme swelling, and the advantage which may be derived from the introduction of a small elastic gum catheter, especially where ulceration is threatened, in preventing extravasation and preserving the urethra during healing; lastly, to shew the expediency of the operation in all cases of confirmed phymosis, whether congenital or the result of inflammation."

Mr Travers's third essay is on Wounds and Ligatures of the Veins, and is no less valuable than the others. We have often regretted to find a tendency in medical writers unintentionally to describe an unusual occurrence which has fixed their attention, and become the object of their study, so that their readers are led to suppose it to be more frequent than it really is. We remember well, that after hearing Dr Monro's lecture on venesection, and reading B. Bell's chapter on the same subject, we were absolutely terrified for a time from the use of the lancet, as we conceived it scarcely possible to avoid all the dangers they so strongly insisted upon, although before that we had considered ourselves as very expert bleeders.

In the same manner, a false impression might be received from a perusal of this essay, both from the facts mentioned by Mr Travers, and those observed by others. There is no doubt that the human vein sometimes inflames after being opened, and after being tied, but the former at least is so infinitely rare an occurrence as never to be anticipated from the use of the lancet. This is the true reason why no bad effects were traced by the ancient surgeons to their treatment of "the veins with singular rudeness," and why some surgeons are unwilling to believe that tying the veins can ever be productive of mischief. But we regret that Mr Travers, in regard to this subject, should have spoken of "the older operating surgeons of the country, army and navy," and of the continental surgeons generally, as continuing to tie the main veins in amputation, from ignorance of its occasional bad consequences, and not as directed by the circumstances of the case, and their past experience. The fact is, that the British army surgeons do not tie the veins after ampu-

tation, except where they bleed profusely in debilitated subjects, and they are well acquainted with the effects of the inflammation of their coats. (*Vide* Hennen's Military Surgery, pp. 287 and 290.) Neither do they tie them for varix, and we suspect that Mr Travers has been influenced in his opinions, more from the effects of ligature on diseased varicose veins, than on comparatively sound incised ones.

Mr Travers first details a sufficient number of cases of inflammation of the veins from puncture and ligature, and then notices the sympathetic inflammation of veins. We quote the following communication from Mr Coleman, Professor of the Veterinary College, as the most striking example we have met with, of the impropriety of concluding analogically, from what takes place in one kind of animal, as to the effects of the same cause on another.

"Inflammation of the vein after bleeding is much more frequent in horses than in the human subject; but Mr Hunter was not correct in stating that an abscess is always formed at the wound. The most curious circumstance respecting this disease in horses Mr Hunter has overlooked. In the human subject I believe the inflammation very generally, if not always, extends along the vein following the course of the circulation. In horses I have never seen a case where the inflammation extended to the chest, or many, even one inch below the orifice; neither do I recollect any fatal case from this disease. The inflammation extends contrary to the course of circulation towards the head. The cavity of the vein is often filled with lymph; and when this takes place an abscess forms, and the vein above is lost." p. 232.

We must, however, observe, that, in one instance at least, Mr Travers found the inflammation in the jugular vein in a horse follow the course of the circulation. p. 234.

Mr Travers next contrasts arteries and veins as to their mode of healing after being wounded or tied; describes minutely the process of healing in the jugular vein of the horse after being opened; and details correctly the effects of ligatures upon the veins.

"A ligature does not divide the internal tunic of a vein either in man or animals. It draws this tunic into longitudinal folds, and leaves a visible line of indentation, which looks at first like discontinuity; but this impression is corrected by closer examination. It appears as if the outer or cellular coat only was divided. On examining the jugular vein of a horse at twenty-four hours, three days, and five days, I could see no difference in the appearances. The vein above and below is thrown into longitudinal folds on either side of the ligature. The portion next the heart is perfectly empty and collapsed; that next

the extremity is filled to distension by a long and generally firm coagulum of blood, which is a mould of the vessel, and bears the impression of its semilunar valves. The coagulum extends for several inches; it is not always compact and lamellated, and adhering to the interior tunic, being sometimes less consistent and broken; but it always fills the cylinder of the vein. There is no blush upon the inner tunic, much less any sign of adhesive inflammation, or thickening of the proper coats of the vein, or agglutination of the contiguous folds; these folds being effaced on the removal of the ligature; but the cellular sheath of the vein is thickened by a deposit of lymph in the vicinity of the ligature." pp. 251, 252.

Two plates, containing ten figures, illustrate this essay, the promised continuation of which we shall receive with great satisfaction.

II.

Secours à donner aux Personnes Empoisonnées ou Asphyxiées. Par M. P. Orfila, Medecin par quartier de S. M.; Membre correspondant de l'Institut; Membre de la Societè medicale d'Emulation, de l'Université de Dublin, de Philadelphie, de l'Academie de Madrid, de Barcelonne, de Murcie, des Iles Baleares; Professeur de Chimie à l'Athenée royal, Professeur de Medecine legale, etc. Small octavo, pp. 238. Paris, 1818. Crochard and Desoer.

We are prepared to receive with great respect whatever comes from the pen of Professor Orfila, whose late work on Toxicology, a production at once of high scientific and of high practical merit, has acquired him a distinguished station amongst the benefactors to medical science. The present may be considered a supplement to that valuable work, and it is but justice to say that it is a supplement every way worthy of it. The author's object is to diffuse, among the community at large, a species of knowledge which has hitherto been, we think, too exclusively, addressed to professional readers. He not only points out in plain and popular language the characters of the different poisons, the symptoms they induce when administered by accident or design, the tests by which they are ascertained, and the remedies by which they are to be counteracted, toge-

ther with the most judicious after-treatment proper for each; but enters at length into the various means for resuscitating asphyxiated persons, and children born without signs of life after laborious labours; the treatment of the stings and bites of venomous or rabid animals; the management of burns; the mode of detecting adulteration of wines; and of distinguishing real from apparent death.

The aim of a work of this nature is highly praiseworthy, from the reasonable hope it holds out of preventing human suffering, and of saving ultimately many lives. It cannot fail to be useful; for it should be recollected, that, in disasters of the sort above enumerated, while medical aid is sought, perhaps at a distance, the golden opportunity of administering an antidote to the poison, or of recalling the vital spark in suspended animation, is frequently lost beyond recall, when a very little impromptu medical knowledge on the part of a bye-stander or a neighbour might have been productive of a very great good, by preventing the catastrophe which all are ready enough to witness with unenlightened terror, and to deplore with unavailing regret.

We do not intend to transcribe from the work any passages at length: our readers will readily conceive the nature of the style when we say that it is simple, untechnical, perspicuous, and in all respects adapted for general perusal; and of the ability of its execution as a whole, they will, we believe, ask no stronger assurance than the name of M. Orfila. Yet we would make a few remarks on some of the more interesting topics of this volume.

Before doing so, we beg to impress upon our readers the high importance of their studying deeply the subjects treated of in this little work; and of their having completely at their command a ripe and ready knowledge of all the details with regard to the more ordinary poisons, their tests, the precipitates struck, and the counterpoisons adapted to each. Not only a practitioner's fame is at stake, but all his own better feelings must be interested in his acquitting himself honourably and sufficiently in sudden emergencies of so melancholy a character. We would willingly on this occasion throw into a tabular form some information of this kind, as a reference to the reader; but it would be superfluous, as in our Review of M. Orfila's greater work, (See the 11th Volume of this Journal,) we have entered at great length into the mode of action of the poisons, and at p. 132 of that Volume, detailed his original experiments on the antidotes of the more ordinary ones. Besides, such a table would of necessity be incomplete, inasmuch as it could not include the

vegetable poisons. So far as we know, there are no tests by which these last can be detected, and their effects upon the primæ viæ cannot be distinguished from those produced by various diseases. Our ignorance of the chemical properties of the substances themselves renders it impossible to propose any other antidotes than such as are of uncertain efficacy.

In the work before us, M. Orfila has thrown no additional light on that obscure but interesting question how arsenic induces death. He still classes it among the corrosive poisons, yet it is well ascertained that it is not by the inflammation and erosion it excites that it kills the sufferer. Indeed, these effects are only consecutive; for when the mineral is given in large doses, death often takes place before symptoms of gastric inflammation have had time to supervene. Besides, when arsenical solution is applied to a wound, death is produced with much certainty, though the local irritation of the living fibre is comparatively trifling. There can therefore be little doubt that in the majority of cases, arsenic must make its way into the circulation ere it terminates life. The same holds true in the case of poisoning from the bite of a rattle-snake, and other venomous serpents. From a review of all the phenomena, may not the opinion be hazarded that these poisons, with an operation analogous to that of the electric aura, though infinitely slower in their effects, produce death by destroying the vitality of the blood, and rendering it incapable of supporting the irritability of the heart, and the excitability of the brain and spinal cord?

On the subject of rabid animals, and that frightful disease hydrophobia, there is a very interesting section at p. 146. In addition to the usual precaution of excision, burning the bitten part, &c., the learned author recommends the wound to be washed with oxymuriatic acid. This is said to have prevented hydrophobia; and the internal use of the same acid is stated to have saved a number of persons bitten by a mad wolf. As in a disease so perfectly hopeless as this, every new suggestion deserves the utmost publicity, we shall give the statement in the author's own words:

"M. Brugnatelli a rapporté plusieurs faits qui tendent à prouver que le *chlore* (acide muriatique oxigéné), mis sur les blessures des animaux enragés, empeche la rage de se manifester. Long temps avant, Cluzel avait annoncé que le meme remede, pris interieurement, avait sauvé plusieurs personnes mordues par un loup enragé. En attendant que l'experience prononce sur les avantages de ce medicament, il est de la plus haute importance de continuer a bruler les plaies, comme nous venons de la prescrire." p. 153.

The success of Dr Schoolbred and Mr Tymon * in curing hydrophobia by blood-letting alone, excited strong interest a few years ago. Many, however, doubted the reality of the disease described by these gentlemen, suspecting the complaint, treated to be either acute dysphagia, or modifications of hysteria or of tetanus. Yet we think no man would fulfil his duty in melancholy circumstances of this kind were he to omit the trial of this powerful practice: for certainly copious blood-letting is the most efficacious of antispasmodics; and it should be borne in mind, that it is chiefly by the uncontrollable spasms of the diaphragm and other muscles of respiration and deglutition, that this horrible disease proves fatal.

We are the more ready in making these observations at present, because it is generally understood that it is in very hot summers, like the one just ended, that dogs are more especially liable to rabies:—nay, we have means of knowing that it has actually appeared of late in some districts of the country, and that several people have been bitten. Our remarks, therefore, are likely, we fear, not to be unseasonable.

At page 17, M. Orfila cautions his readers, when they apply ammoniacal salts to the nose of a person in syncope or any other fit, not to do so for a long continuance, as cases have occurred where severe inflammation of the respiratory passages, and even fatal asphyxia, have followed such injudicious perseverance. We should have conceived this caveat almost unnecessary, but for a case that we ourselves were witnesses to not very long ago. The patient, a lad of 17, was recovering from a severe attack of fever: during convalescence he was, without any evident cause, seized with convulsions apparently of the epileptic kind, which became more and more frequent, and ultimately so severe as to cause great apprehension of a fatal result. In order to rouse him from the stupor succeeding one of these fits, an attendant most imprudently held aqua ammoniæ to his nose with such unwearied but destructive benevolence, that suffocation had almost resulted. As it was, dyspnœa with severe pain of the throat and breast immediately succeeded, and death took place 48 hours afterwards. In the actual condition of the patient before this unpleasant occurrence, there was little else than death to be expected; for we have repeatedly seen the observation of the Father of Physic verified, viz. that "convulsions

* See this Journal, Vol. IX. p. 22—30.

succeeding fever are fatal:" * Yet, on the other hand, there is as little room to doubt that the fatal event was hastened by this unhappy ministration.

At page 27 the author quotes a number of instances where the external application of arsenic in unguents or lotions to cancerous and other ill-conditioned sores, produced death by being absorbed, and acting on the constitution. The first case of this nature was recorded, we believe, by Haller, and cases of the kind are sufficiently numerous to enforce caution if not reluctance in the use of a substance so dangerous. M. Orfila is inimical to its employment even in obstinate intermittents, and says it should never be persevered in if it does not cure the disease at the third or fourth repetition, and in the smallest doses. He asserts, from observation, that this substance given even in minute doses and with every possible precaution, strongly predisposes the patient to future organic diseases of the heart. Remarks of such a nature, from such authority, must have their weight.

The work, of which we have now finished our account, is introduced by a very flattering official report to the Faculty of Paris, drawn up by a committee consisting of MM. Percy, Pinel, and Vauquelin, who, it seems, had previously been appointed to examine M. Orfila's manuscript, submitted by him to that body.

We are glad to see an English translation of this useful treatise already announced.

III.

Some Farther Observations on the Subject of the Proper Period for Amputating in Gunshot Wounds, accompanied by the Official Reports of the Surgeons employed in his Majesty's Ships and Vessels at the late Battle before Algiers. By A. Copland Hutchison, Esq. late Principal Surgeon to the Royal Naval Hospital at Deal; Member of the Royal College of Surgeons in London, and of the Medico-Chirurgical Society; one of the Consulting Medical Officers to the General Penitentiary, Millbank, Westminster, &c. &c. 8vo. Pp. 64. Callow, London.

From the number and importance of the subjects treated of in Mr Hutchison's valuable volume of "Practical Obser-

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* Hippoc. Sect. 4, Aph. 47.

vations in Surgery," our general analysis prevented us from entering fully into the particular subject more amply discussed in the useful and interesting work now before us, which furnishes masses of evidence that carry strong conviction to the mind, and appear to fix a disputed point of surgical practice on the immutable basis of experience, and impartial deductions from facts.

With the knowledge of the *causes why* amputation of a limb becomes indispensable, it is of primary and invaluable consequence to possess a decisive rule of conduct, on the *period when* the operation ought to be performed, and which it is Mr Hutchison's design to establish by impartial references from the "official documents," and by additional arguments to those advanced in his surgical observations.

The general causes productive of the absolute necessity of amputation, have been clearly ascertained and defined both in civil and military life. In gunshot wounds, the operation is agreed to be inevitable, when part of an extremity has been entirely carried off, or is left attached by a small portion of soft parts; when the internal structure of a joint has been perforated and wounded; when the large bones are broken into numerous fragments; and when the soft parts with nerves and arteries are torn away and destroyed, to such an extent, that their reproduction or reorganization is impossible, and the limb is rendered wholly useless.

In such cases, the plain suggestions of reason would seem to say to the military surgeon, As your patient must undergo amputation, the sooner he is relieved by the operation from the anxiety of depressing reflections, from agonizing suspense and the pangs of pain, the greater will be his present comfort and future chance of recovery. The propriety of immediate amputation is ably urged by Mr Hutchison: the arguments, by which he sustains his doctrine, are clearly deduced from accurate observations, just reasoning, extensive experience and numerous facts, and appear to establish very satisfactorily the following positions: That "delay of 2, 4, 6, or 8 hours," * after the infliction of the wound, is fraught with danger in many cases: That such delay is not necessary: That, independent of the danger, primary amputation is proper and expedient as early as

* Guthrie on Gunshot Wounds, passim.

possible after the wound: That the constitution but rarely receives a shock or alarm, that unfits the body for undergoing the operation, or that excites symptoms which should deter us from performing it.

To prove the danger of delay, Mr Hutchison shews, that instances of fatal hæmorrhage had occurred in cases where it was practised, and that "in two of the ships several officers and seamen, so wounded as to require immediate amputation, died in the cockpit, before the period had elapsed in which the surgeon felt himself warranted to commence operating;" that in gunshot fractures of the extremities requiring amputation, "the muscles of the injured limb will be attacked with spasms * from irritated nerves;" and we have seen death, in one instance, produced by spasms and convulsions from this cause.

That delay is *not* necessary in general, the successful result of the practice of immediate amputation, adopted by Dr Wright, Mr Leslie, Mr Stenhouse, and Dr Quarrier, forcibly proves.

With respect to the 3d position, Mr Hutchison has urged the propriety of immediate amputation, independent of the danger of delay, by the following reasons; because "the painful stricture of a field tourniquet on a wounded limb, for four or six hours, has prompted the patient to relax it so much as to allow of hæmorrhage from the arteries, and also endangers the induction of gangrene, by the suspension of the circulation in the parts of the limb below the tourniquet;" because great inflammation may soon ensue in wounds of the joints; because depression of mind and exhaustion frequently follow the protracted pain and irritation of lacerated nerves and muscles; and because, where amputation is inevitable, delay can only be justifiable, when the powers of life are, by any means, so much exhausted by hæmorrhage, or depressed by nervous derangement, as to require "generous cordials, as wine," and "attentive kindness," &c to produce reaction, and soothe the nervous system before the operation is resorted to. †

Mr Guthrie, in his valuable work on Gunshot Wounds, ably contends for, and decidedly proves by documents, the advantage of the primary over the secondary amputation; ‡ but he only advances one reason for inculcating a delay of a few hours in all cases, "that the sufferer may have time to recover from

* P. 15 and do. of Surgical Observations.
† P. 8 and Practical Observations in Surgery, pp. 4, 5.
‡ Mr Guthrie's chapter on Amputation.

the shock of the injury, and approach as near as possible to a state of health. *

Mr Hutchison denies, *in toto*, that gunshot wounds *generally* produce such "shock and alarm to the constitution" or "nervous commotion," as will sanction delay. The documents before us generally testify against the presence of this sensorial derangement. We have accompanied armies and fleets to battle, and have not seen it; and in short, taking the evidence of facts, if a sailor or a soldier be seen calmly applying a tourniquet or handkerchief to the lacerated remains of a lower extremity, to check hæmorrhage; or if, like Captain B-df-d, he can preserve himself, thus mangled, by swimming in the sea a long period; if a sailor can lower himself down by the ropes from the tops of the ship on deck, and pilot his limb in safety amidst ropes, while hanging by a shred of integument; if the soldier calmly seeks a place of safety, or the sailor creeps to the cockpit, without being sensible of the extent of his injury; if officers like the brave Abercrombie and Colonel Beckwith are first apprized of their wounds by those near their person; if, with such wounds, they can wait at their artillery to point and fire the gun of revenge; if an officer like Captain M'K-rl-e will threaten to go and complain to the commanding officer, if the surgeon did not immediately amputate his limb; if both sailors and soldiers can then animate their companions to the fight, and join in the shout of victory; if they generally desire immediate amputation; if officers after death-wounds, like Benbow and Abercrombie, can continue to direct the manœuvres of battle; if the brave Athenian Cynægyrus was killed holding the Persian vessel by his teeth after his arms had been successively cut off; and if in these acts (and many more we might record) we admit the severely wounded to exercise rightly the mental functions of perception, reflection, memory, and judgment, and display the moral and physical faculties of courage, resignation, fortitude, energy, and skill,—instead of fear and alarm, we may surely decide, that the injury but rarely produces a severe constitutional shock, an injury productive of the necessity of deferring amputation; and, indeed, if it did always, we must deny the brave the glorious honour of having died (not from one, but) "covered with wounds."

* Mr Guthrie's chapter on Amputation, p. 24.

IV.

Histoire d'une Résection des Côtes et de la Pléure ; lue à l'Academie Royale des Sciences de l'Institut de France le lundi 27 Avril 1818. Par le Chevalier Richerand, Professeur de la Faculté de Médecine, &c. pp. 16. 8vo. Paris, 1818.

No operation seems too desperate for the courage of modern surgeons to attempt. In a preceding article we have noticed the ligature of the descending aorta by Mr Cooper, although unsuccessful. We have now to record an operation of a different kind, but equally without a precedent, successfully performed by M. Richerand. We translate his account of the detail without abridgment, wishing to preserve every circumstance of so curious a fact.

"Gentlemen,—I have the honour of laying before you the history of a surgical operation of which there is no example in the annals of the art. The operation is new ; it was undertaken through necessity, and is justified by success.

"M. Michelleau, surgeon of Nemours, had a cancerous tumour on the region of the heart, which a neighbouring surgeon extirpated in the month of January. On the removal of the first dressing, a bloody excrescence appeared at the centre of the wound ; which although cauterized at each dressing quickly reappeared. A second operation was tried, in which they penetrated deeper, having laid bare the ribs, and even the pleura. However, new excrescences appeared, and were reproduced in spite of repeated cauterizations. In despair at having derived no benefit from so many painful operations, the patient came to Paris towards the end of March, determined to suffer any thing, in the hope of being relieved from a horrible disease, and of escaping inevitable death.

"At this period, an enormous flabby excrescence of a brownish colour sprouted from the wound, which discharged a great quantity of reddish-coloured sanies, so fetid, that it was impossible to remain for a quarter of a hour near the patient, without the air of the apartment being renewed. The pain was however diminished ; he had neither colliquative sweats nor diarrhœa ; and although troubled with an old and confirmed cough, the patient, at forty years of age, of a strong constitution, shewed the most encouraging fortitude.

"In this state of things it was decided, that the ribs should be cut out, from which the cancer was supposed originally to have grown. Having the charge of this operation, I did not conceal from the patient, that, very probably, I should be obliged to remove a portion

of the pleura. He did not hesitate a moment to submit to the operation, although aware of the great danger attending it.

"Every thing being thus arranged, I proceeded, on the 31st of March, encouraged in this bold enterprise by the friendly and active assistance of my colleague Professor Dupuytren, and other professional gentlemen, who were anxious to assist me. The patient presented himself to the instrument, refusing to be held by assistants, and promising a firmness which he did not belie.

"I began by enlarging the wound, giving it a crucial form, and thus exposed the extremity of the sixth rib, which appeared swelled and rough for four inches in length. Having cut the intercostal muscles with a probe-pointed bistoury, carried along the superior and inferior margin of the rib, I then sawed the bone at the extremities of the diseased portion with a small saw, the cutting edge of which was not above fifteen lines in length. This done, I detached the cut portion from the pleura by means of a common spatula. I found this part of the operation easier than I expected, owing to the pleura being thickened under the bone, as the event of the operation has proved. The seventh rib was exposed for the same length, and was detached in the same manner, but with much more difficulty, and not without some slight laceration. It now evidently appeared that the pleura was diseased; it was thickened, spongy, and gave rise to the excrescence in that part which separated the two portions of the ribs that had been removed. The cancerous state extended above the sixth rib, in so much that eight square inches of the membrane seemed to be diseased. Not to extirpate this was to leave incomplete an operation which had lasted for twenty minutes, and till that moment been attended with success. Each of the assistants provided himself with means of stopping the hemorrhage, which we dreaded would be terrible the instant I should cut the intercostal arteries. I cut out the pleura with a pair of scissors with curved edges, and whether the incision made by this instrument (which divides rather by pressing than cutting, and bruises what it divides) had caused the vessels to contract, or whether their calibre had been diminished by the previous cauterizations, not a single drop of blood was lost; but at this moment the external air rushed into the chest. Pushing violently back and compressing the left lung, which, together with the heart contained in the pericardium, were forced towards the opening, I endeavoured, by applying my left hand to it, to moderate the entrance of the air, and prevent the suffocation, which seemed imminent, while with the right I covered the wound with a large compress smeared with cerate. The entrance of the air was immediately checked by this application, which was large enough not only to cover the wound but the whole side of the chest. I placed over it a large pledget of charpie, covered with cerate, then a few compresses, and supported the whole with a bandage applied pretty tight.

"The anxiety and difficulty of breathing were extreme for twelve hours after the operation. The patient passed the whole night sitting.

Towards the morning the breathing was relieved by sinapisms applied to the soles of the feet and inside of the thighs. At this moment the pulse rose, and his strength revived. The only nourishment the patient took was barley-water and an infusion of the flowers of the limetree and violets, perfumed with a few drops of the distilled water of orange flowers, and sweetened with syrup of gum arabic. Three days passed thus. The fever was moderate, but the oppression was such as to prevent the patient from sleeping. The first dressing was removed 96 hours after the operation. The pericardium and lung had formed adhesions with the edge of the quadrilateral opening, giving it the appearance of a window opposite to the heart. Luckily the adhesion was not complete between the pericardium and lung; for from the sixth to the twelfth day, by means of this want of adhesion, a great quantity of serum flowed from the chest, and was discharged at each dressing. It may be estimated that above half a pint of serum was discharged in the twenty-four hours. On the thirteenth day the discharge produced by the inflammation of the surfaces ceased, and on the eighteenth the adhesion between the pericardium and lung was complete. From this time the air ceased to enter by the wound; the patient could lie upon that side; his sleep and appetite were completely re-established. The wound, although dressed to this time with cerated linen directly applied to it, looked very well, and diminished rapidly. On the twenty-first the cerate dressing was discontinued, and the surface, covered with fleshy granulations from the lung and pericardium, was dressed as a simple wound.

"The patient, who for some days had been making trial of his strength in a garden belonging to the house in which he lived, could not resist the desire of traversing in a carriage the streets of the capital. Not being fatigued by an excursion of five hours, during which he visited l'Ecole de Medecine, and caused to be shewn him the portions of the ribs and pleura, which are deposited in the Museum of that establishment, there was nothing to prevent his returning home, where he arrived safely on the twenty-seventh day after the operation, having provided himself with a piece of boiled leather to cover the cicatrix when healed.

"I did not let slip the opportunity here offered of again proving the perfect insensibility of the heart and pericardium. The patient was quite insensible to the gentle application of the fingers to these organs. Besides, the pericardium, during life, is so perfectly transparent, that we can perceive the heart through it as under a clear bell-glass, to such a degree, that we were on the point of thinking there was no pericardium, which is far from having that transparence in the dead body; and in this respect it may be compared to the cornea, which becomes dull and opaque at the approach of death.

"Since a large opening in the side, with loss of substance, is not necessarily followed by suffocation, effusion of blood, or mortal inflammation of the vital organs, to which the external air has then free access, it appears to me, that in a case which must prove fatal, such as

dropsy of the pericardium, an opening might be made opposite the heart, through which the water might not only be evacuated, but, by exciting adhesive inflammation of the surfaces, by a treatment similar to that of hydrocele, the disease be radically cured.* The same operation would be indicated to expose a lung partially diseased, for the purpose of removing a part of it by ligatures. It will be said that these are rash experiments; but how many operations were thought impossible fifty years ago, which are now perfectly established, and performed with the greatest success? Gentlemen, I shall not trespass longer on your time. It is for those among you who interest themselves in the progress of surgery, to inform me, if, in the views I offer, I have been misled by a vain desire of improvement; it is for them to judge if the fact I lay before you can, in any degree, contribute to the advancement of the science, or to the relief of human misery."

While we publicly acknowledge our obligations to M. Richerand, for having imagined, and successfully performed such an operation, we trust, that, in making a few remarks which have occurred to us, they will not be considered as proceeding from any mean national jealousy, or any other motive than the desire of contributing to the progress of the art, by seeing that the steps are secure. Minute as the description of the operation may appear, there are some important points on which we wish for further information. We wish the exact place of the operation had been pointed out with more precision, by a direct measurement from the mesial line on the sternum. We are merely told that the disease was in the præcordial region, and included the sixth and seventh ribs. We may also infer, from each rib being sawed through in two places, that it did not extend to their sternal ends, but how near it approached them we can only conjecture. We also wish that it had been told, by what means M. Richerand avoided wounding the intercostal arteries while sawing through the ribs, for this, in fact, was the only difficult part of the operation. These arteries do not seem to have been cut through until the pleura was cut out by the scissors, but they run external to the pleura, along the margins of the ribs, and, at their dorsal half, even are imbedded in grooves of the bone. We again miss information concerning the steps of the operation in cutting out the piece of pleura. We are told it was cut out with scissors; but we wish to know how many cuts were made; one, two, three, or four? Probably

* M. Richerand requests his colleagues to send to him (if they themselves do not choose to perform the operations which he proposes) a patient with dropsy of the pericardium, not too much weakened by age or disease.

the last, as M. Richerand always speaks of the removed portion as if it were square. Now, the order in which these cuts should be made is not immaterial. Two of them were probably parallel to the ribs, and might be made without any risk of wounding the intercostals, the danger of which seems to have chiefly occupied the attention of the operator at this time. The other incisions were probably at right angles to these, in the direction of the axis of the body, and that nearest the spine should have been made first, because, when the intercostals were secured there, all danger of hæmorrhage from the sternal incision was precluded; but if an inverse order was followed, the danger of hæmorrhage from the dorsal incision would not be prevented by securing them nearer the sternum. There is also some confusion in the description of the immediate effects of the operation. We are first told, that, immediately upon cutting out the pleura, the exterior air rushed into the lungs. We are then told that the operator pushed forcibly back, and compressed the left lung, which, with the heart in its pericardium, presented themselves at the aperture (se portait vers l'ouverture), and that he endeavoured, by applying his left hand, to moderate the entrance of the air, which was immediately checked on the application of a large plaster. The idea of impeding the entrance of the air through an aperture of eight square inches, by the application of the hand, was not philosophical, or worthy of a great physiologist, but in the agitation of the moment this may be excused; we only regret that it prevented or impeded observation of the phenomena which were then for the first time visible in a living man, and that it probably was the cause of the inconsistencies in their description. We conceive, that it is physically impossible that the operator should, at one and the same time, or even in immediate succession, be engaged in moderating the entrance of air rushing into the chest, and in preventing the lungs from protruding; unless we suppose, that such a violent blast entered by the posterior half of the aperture, as to blow the lungs out at the anterior, or that the lungs and heart, by an active power, sprung out at the anterior part of the wound, and caused a strong suction through the posterior, both of which suppositions have no foundation. The fact is, that the air, in entering into the cavity of the thorax, is completely passive, and is regulated by the state of the lungs, and of the parietes. The latter remaining fixed, if the lungs contract, air will enter into the cavity of the chest, but air cannot enter if the lungs protrude. Again, if the lungs remain in *statu quo*, and the parietes expand, air will also enter, and fill the space left between the lungs and parietes, but the lungs cannot

possibly protrude. The lungs only protrude when the parietes contract upon them more quickly than the air contained in them escapes by the glottis; but in this case it is imposaible that air can simultaneously enter by the external wound. In making these strictures, we have not the least intention of insinuating that M. Richerand did not desire to describe truly what he observed. We only fear that his observation was incorrect, and that he has described as happening what he expected to happen. The only other conjecture we can make is, that there was very general adhesion of the lungs around the excised portion of the pleura, and this is the more probable, when we consider the tendency of inflamed pleuræ to adhere, the previous extent of disease in the individual operated on, and the frequent cauterizations of the part. However this may be, we trust that M. Richerand did not allow this singular opportunity to escape, of observing many phenomena, in regard to the action of the heart, through its transparent membrane. We also sincerely wish, that M. Michelleau may long enjoy good health as the reward of his courage and good sense, and we have no doubt that the same determined mind will induce him to give directions that the state of the parts shall be examined after death.

The tapping of the pericardium, when dropsical, has been proposed by Conradi and others; and the operation which M. Richerand is desirous of performing in a case of dropsy of the pericardium, may certainly be performed, and perhaps without much danger or distress to the patient. But we very much doubt its success. Many cases upon record, indeed, prove that a degree of inflammation of the heart and pericardium, sufficient to cause them to adhere, is not incompatible with life, or even comparative health, and we admit that such an inflammation may be artificially excited in the manner proposed. But we do not think that the death in this disease is owing to a few ounces of water in the pericardium, which can have little effect in impeding the circulation, and has often been found after death when no symptoms during life indicated its presence, but to some organic affection of the heart itself upon which the effusion depends, and which will not be removed by the successful performances of M. Richerand's operation.

The report by MM. Deschamps and Percy, subjoined to this history, is, to say the least of it, in very bad taste. So far from increasing our admiration of M. Richerand's skill and dexterity, it is calculated, by its excessive praise, to excite disgust, and it does not contain an idea that deserves to be commended or refuted.

PART III.

MEDICAL INTELLIGENCE.

LIST of DISEASES treated at the NEW TOWN DISPENSARY, for the Quarters ending June 1st and September 1st 1818.

	Qr. end. June 1st.	Qr. end. Sept. 1st.
Febris continua	255	127
——— ephemera	21	6
——— intermittens	5	1
——— remittens infantum	82	46
——— dentitionis	36	41
Hydrocephalus	10	10
Cephalæa	74	61
Apoplexia	1	
Epilepsia	7	5
Mania	2	
Convulsio	9	2
Chorea	1	
Ophthalmia	72	64
Amaurosis		4
Staphyloma	2	
Otalgia	13	13
Epistaxis	1	1
Polypus nasi		1
Odontalgia	27	18
Aphthæ et ulcera faucium	3	7
Cynanche tonsillaris	41	61
——— laryngea	1	
——— trachealis	3	2
——— parotidea	9	3
Catarrhus	179	70

	Qr. end. June 1st.	Qr. end. Sept. 1st.
Pneumonia	51	19
Pleurodyne	51	37
Phthisis et Hæmoptysis	24	26
Asthma et Dyspnœa	18	12
Hydrothorax	4	4
Pertussis	24	19
Palpitatio	7	8
Mastodynia	9	7
Hepatitis	8	5
Hæmatemesis	2	2
Icterus	4	4
Dyspepsia	132	83
Hysteria	21	15
Enteritis	4	4
Peritonitis	1	
Colica et Obstipatio	16	23
Cholera		3
Diarrhœa	83	69
Dysenteria	7	5
Vermes	48	51
Tabes mesenterica	4	10
Physconia	1	1
Ascites	4	4
Hernia	2	7
Hæmorrhois	14	15
Dysuria	8	9

	Qr. end. June 1st.	Qr. end. Sept. 1st.
Dysuria urethralis	6	2
Nephralgia	2	4
Gonorrhœa	11	9
Inflammatio testis	3	4
Hæmorrhagia uteri et abortus	2	2
Leucorrhœa	5	9
Scirrhus uteri		1
Prolapsus ani	1	
Amenorrhœa et chlorosis	11	11
Dysmenorrhœa	1	5
Hydrops	20	24
Rheumatismus	77	82
Paralysis	13	12
Asthenia	6	13
Rachitis	7	4
Scrofula ossium et articulorum	13	2
——— glandularum	18	24
Caries et necrosis	1	1
Syphilis	7	5
Pseudo-syphilis	3	9
Phlegmon	35	36
Furunculus	5	1
Anthrax		1
Paronychia	11	7
Pernio	5	
Erysipelas	5	7
Erythema	5	6
Variola	46	29

	Qr. end. June 1st.	Qr. end. Sept. 1st.
Varicella	11	5
Rubeola	3	4
Scarlatina	12	6
Miliaria	1	
Urticaria	5	2
Strophulus		3
Lichen		3
Prurigo	4	5
Lepra	6	13
Psoriasis	2	20
Pityriasis	1	1
Roseola	3	2
Eczema		3
Purpura	3	
Ecthyma	1	4
Impetigo	13	5
Porrigo	27	39
Scabies	95	91
Herpes	17	24
Acne	1	1
Lupus	1	
Scorbutus		1
Tumores	22	19
Ulcus	46	40
Ustio	11	9
Vulnus	25	9
Luxatio	2	
Contusio et subluxatio	89	62
Fractura	11	
Venæ varicosæ	2	2

Table of Fevers which have occurred at the Dispensary.

	No. of Fevers.	Whole Cases.	Proportion.
Quarter ending March 1st 1818,	451	2572 =	1 in 5.7
Quarter ending June 1st 1818,	255	2371 =	1 in 9.2
Quarter ending September 1st 1818,	127	2095 =	1 in 16.2

From the foregoing table of the cases of fever which have occurred in the practice of the Dispensary, it would appear, that an abatement of the prevalence of the epidemic in Edinburgh has taken place during the spring and summer. We are aware, however, that the records of the Dispensary do not afford accurate data for judging of the extent to which this has taken place; for the inhabitants of the city, having become aware of the danger arising from the contagion of the disease, and of the advantages to be derived from the immediate removal of the sick to the hospital, patients have been much more frequently than before conveyed there, without any intermedi-

ate application having been made for the assistance of the Dispensary. Though, from this circumstance, therefore, there is reason to believe that the epidemic has not diminished to the extent which appears from the table prefixed, yet we are convinced, not only from the very remarkable diminution in the number of cases of fever which have occurred at the Dispensary, but also from having observed that the disease has not spread so frequently in families, and among the children of the poor, that it has suffered a very considerable abatement.

This abatement may, in some instances, be owing to the diminution of the predisposing causes of fever, in consequence of the fineness of the season, and of the improvement of the circumstances of the poor; but the opening of the fever hospital, which has, during the summer, afforded accommodation to almost all who have required admission, seems also to have materially contributed to produce it. The opening of this hospital in February had a marked and sudden effect in diminishing the number of applications to the Dispensary. We have had daily opportunities of observing the good effects of the removal of the sick, and of the purifying the infected houses, in checking the progress of fever, where it otherwise must inevitably have spread; and, on the other hand, have witnessed several examples, where, from the neglect of these means, in consequence of the prejudices or carelessness of the patients and their friends, the disease has spread, in circumstances in which, there is every reason to believe, it might have been checked. At Quarry Holes, a village in the suburbs, consisting of a few small cottages, the fever was introduced, in the month of April, by a man who obstinately refused to be removed, and from him it has since been communicated to his own and to the neighbouring families, no fewer than seventeen individuals, within our knowledge, having been attacked by the disease in this small place.

In the midwifery department, the number of deliveries, from the 1st March to the 31st August, were 138.

Natural labours, - -	123
Instrumental, - -	1
Complex, - - -	4
Premature and abortions, - -	10
	138

In the instrumental case, the forceps were applied on account of the cessation of the labour pains.

Of the complex labours, three were cases of twins, and one of prolapsus of the funis umbiliculis, in which the patient was delivered by turning.

Edinburgh, October 1st 1818.

M. Laennec has discovered, that, by interposing a tube of paper or wood between the ear of the observer and the chest of the patient, much information may be acquired concerning the diseases of the

chest. The pulsations of the heart are thus rendered more audible, and, in phthisical patients, the voice seems to proceed from the chest, when one end of the tube is applied over those places where there are tubercles; and, according as the sound is clear, or rattling, we may judge whether the cavity is empty, or contains pus.

Extract of a Letter from John Astbury, M. D. April 14th.

On Saturday last, I was informed by the overseer of the poor for the parish of Eccleshall, that more than twenty persons had had the small-pox after vaccination in that parish, mostly of a mild nature.

Extracts from a Letter from a Physician in London.

A Fatal Case of Small-Pox, Eighteen Years after Vaccination.

The circumstances are stated to be truly lamentable. The subject was an apprentice or assistant to a most respectable apothecary, and the son of an opulent tradesman. He had been vaccinated when an infant, by a surgeon, supposed to be particularly well acquainted with the cow-pock. The eruption, not numerous, appeared on the third day from the attack of fever. The eruption afforded no relief; on the contrary, on the sixth day, or perhaps on the fifth day, very great difficulty of breathing, with little cough, but no expectoration, came on; much oppression and pain of the posterior part of the chest was felt; the face was swelled, and an erysipelatous affection spread over it, also apparently over the eyes, which were quite red; the pulse was very strong, and frequent; the eruptions few in number, except on the visage, but they were quite distinct, flat and depressed in the middle, without any ring or areola at their bases, containing scarcely any lymph. On the seventh day from the fever, and the fifth or sixth of the eruption, the patient died. On examination of the body after death, the right lung was found adhering to the costal pleura, firmly but recently, and the whole lung was gorged with blood, and apparently in a state of high inflammation. It was said, that the victim had been exposed to the company of several persons ill of the small-pox, about a fortnight before his illness, and that he had been, during that time, living freely, and using great bodily exertion, during the late hot weather. It may be proper to mention, that a very large scar remained on the arm from inoculation.

Consumption prevalent during the uniform high Temperature of the Summer 1818.

The more than three months, perhaps, of unprecedented high and uniform temperature of the summer 1818, neither seemed to impede the progress of pulmonary consumption, nor to prevent its occurrence. Many cases decisively began after the hot season commenced, and ran their career to a fatal termination at the close of August. Others, which began in the preceding spring and winter, seemed to be rather accelerated than arrested in their march, by the hot months of June, July, and August.

Additional Observations on Varioloid Diseases. By JOHN THOMSON, M. D. &c. &c.

DEAR SIR,—Since sending you the "Observations on the Varioloid Disease, &c." I have had occasion to see twelve additional cases of it in Edinburgh. In two of these the disease has occurred in persons who had previously passed through small-pox. It has attacked, for the second time, a boy who had been inoculated with cow-pox; and it has proved fatal in two instances in which the patients had not passed through small-pox or cow-pock inoculation.

Having been informed by my friend Mr William Wood that a varioloid disease, similar to that which had occurred in Edinburgh, was prevailing in the town of Lanark, and at Mr Owen's cotton mills in that neighbourhood, I visited that place, and found that the disease had prevailed very extensively in the town, but was then beginning to decline. Five instances were mentioned to me by the medical practitioners in which it had proved fatal, but I could not hear of any deaths having taken place among those who had previously undergone vaccination.

At Mr Owen's mills, through the obliging attention of Mr Gibson, who has the medical charge there, I had an opportunity of seeing 118 cases of young persons affected with this epidemic. In its general appearances the disease bore a very striking resemblance to that which I have had occasion to see in Edinburgh, though on the whole it appeared to me to have a character considerably milder. Four only of those affected with it had previously passed through small-pox; in two of these the disease was mild, but in the other two severe. Eighty-two had this disease after having passed through the cow-pock. In a few of these it might be said to be severe, but in by far the greater number it was extremely mild, and exhibited the most convincing and agreeable proofs of the efficacy of cow-pock in modifying small-pox. Thirty-two had the disease without having passed through either cow-pock or small-pox, and what appeared to me remarkable, it had proved fatal only in one person of this class. Several, however, had been in imminent danger, and their recoveries may be tedious. Five or six in this class, as well as a considerable number of those who had previously passed through cow-pock, had the disease in a form so slight as to agree with the descriptions which have been given of chicken-pox rather than small-pox. Several individuals had experienced a severe variolous fever without any eruption having appeared, while others had the eruption with little or no fever. The eruption itself varied in quantity from one pustule to a number that was in some instances uncountable. By a letter which I received last evening from Mr Gibson, I learn that the disease is still on the increase. One more instance has occurred of its having attacked a boy who had previously passed through small-pox, and one where it has attacked for the second time a lad who had previously passed through the cow-pock. In some of those who have neither undergone cow-pock nor small-pox, the disease continues, Mr Gibson informs me, to exhibit the symptoms which have been regarded as characteristic of chicken-pox. But I forbear entering more

minutely into details, as I am not without hopes that that gentleman may himself be induced to lay before the public an account of this epidemic as it has presented itself to his observation.

I have been led to believe, that it might be useful to circulate among medical practitioners the following queries; definite answers to which could not fail, I conceive, to remove much of that disagreeable uncertainty which exists at present, with regard to the several points to which these queries relate. They have not, as to some on a first perusal might appear, been hastily drawn up, but are, as well as the conclusions contained in my former letter to you, on which they are founded, the result of much observation, reading, and reflection. I have only to repeat, that I shall be obliged to such of your readers as have had occasion to attend in a particular manner to varioloid diseases, by their communicating to me, through the medium of your valuable Journal, or otherwise, any information which may tend to throw light on the different subjects of these queries. I may remark, that, in tracing the history of chicken-pox, it is particularly desirable that it should be accurately ascertained in what situations and seasons it has appeared only as a sporadic, and in what as an epidemical disorder.

Query 1*st*, Have you ever had occasion to see Chicken-pox prevailing epidemically, without cases of Small-pox occurring among them?

2*d*, Have Chicken-pox appeared to you to attack those who have not had either Small-pox or Cow-pock as frequently as those who had passed through these diseases; and have you remarked any difference in the appearance of the eruption in these three several classes of patients?

3*d*, Have any examples occurred in your neighbourhood of persons having had the Small-pox twice? and did it appear, in those instances, that the disease was less severe in its second than in its first attack?

4*th*, Has a Varioloid disease occurred to your observation in persons who had passed through regular Cow-pock Inoculation; and in the instances in which it may have occurred, whether has this disease appeared to you to resemble more Chicken-pox or Small-pox?

5*th*, Has this Varioloid disease, when it has attacked those who had been vaccinated, proved in any instance fatal?

6*th*, What were the usual symptoms of this disease in those who had not passed through Small-pox or Cow-pock? Were they those of Small-pox, or of the disease which has been termed Chicken-pox?

7*th*, In what proportion of persons attacked with this disease, who had not been vaccinated or variolated, has it proved fatal?

8*th*, Have you had occasion to see any instances of modified Small-pox, or the disease which has been termed the Chicken-pox, occurring oftener than once in the same individual?

9*th*, Does the general description which I have given of the Varioloid disease, in the three different classes of persons whom it has attacked in Edinburgh, agree with that of your observation; or in what respect does your observation differ from mine?

10*th*, Are you acquainted with any facts which tend to disprove the hypothesis that Small-pox, Chicken-pox, and Modified Small-pox, may all arise from one and the same contagion?

I remain, Dear Sir, yours truly,

JOHN THOMSON, M. D.

5, *George Street*, 15*th October* 1818.

P. S.—Since sending you the above letter, I have received, among several valuable communications on the subject of Varioloid Diseases, one from Dr Mudie of St Andrews, containing a particular account of an eruptive disease which prevailed at that place in the end of the year 1817, and beginning of 1818, resembling, in every respect, that which has lately occurred in Edinburgh; and accompanied by a document proving incontestably, that the idea of variola and varicella, arising from the same contagion, had been forced upon Dr Mudie by observation, and distinctly expressed by him in a letter to Dr Macfarlane of Perth, dated 15th April 1818. J. T.

5, George Street, 17th October 1818.

On 1st August, the Senatus Academicus conferred the degree of Doctor in Medicine on the following Gentlemen, after having gone through the appointed examinations, and publicly defended their inaugural dissertations:—

Of Scotland.

Colin Allan,	De Febre Remittente quae grassabatur in Insula St Luciæ, Annis 1796-97-98.
James Bartlet,	De Syphilidis tractatione sine Hydrargyro.
William Beattie,	De Phthisi Pulmonali.
Geo. Cranst. Brown,	De Elephantiasi Græcorum, vel Lepra Arabum.
James Brydon,	De Typho.
William Burnie,	De Apoplexia Sanguinea.
William Campbell,	De Dysenteria.
Mark Cockburn,	De Dysenteria Indiæ Orientalis.
Alexander Dewar,	De Vulneribus pugna in navali apud Algerium proxime facta acceptis.
Thomas Drever,	De Diarrhœa.
Charles Ducat,	De Pneumonia.
Robert Finlayson,	De Febre Flava.
Hope Stew. Fleming,	De Asphyxia submersorum.
Th. Macmillan Fogo,	De Febre Flava Hispaniæ.
Alexander Fyfe,	De Amaurosi.
William Gordon,	De Hominis Ætate Infantili et Pubertate.
James Grant,	De Nyctalopia.
Peter Hardie,	De Typho.
Gavin Hilson,	De Gangræna Nosocomiali.
Charles Hutchison,	De Effectibus aeris et exercitationis in corpus humanum.
David Jameson,	De Febris Remittentis Curatione.
John Irving,	De Hepatitide.
William M'Donald,	De Ciborum Concoctione.
Robert M'Kinnal,	De Dysenteria Indiæ Orientalis.
John Millar,	De Tetano.
Garden Milne,	De Catarrho.
Thomas Molison,	De Angina Pectoris.
William Murdoch,	De Cynanche Trachealı.
Alexander Nisbet,	De Pneumonia Typhode.
William Ross,	De Amaurosi.
George Scott,	De Pneumonia.
John Simpson,	De Vomitu.
John Stark,	De Rheumatismo acuto.

Robert Stark,	De Dysenteria.
Walter Steel,	De Febre Insularum Indiæ Orientalis.
John Graham Stuart,	De Emeticis.
Alexander Stenhouse,	De Ictero.
James Strachan,	De Caloris Effectibus in corpus humanum.
Benjamin Welsh,	De Struma Puerorum.
Robert White,	De Vomitoriis.
Robert Wight,	De Febrium Natura scalpello quæsita.
William Vallange,	De Ophthalmia Ægyptiaca.

From England.

Henry Bell,	De Fœtus Sanguinis circuitu.
Will. Francis Carter,	De Febre endemica Indiarum Occidentalium.
John Davidson,	De Asthmate.
James S. Ferral,	De Typho.
Francis Fox,	De Nexu, quo Visus et Tactus invicem sociantur.
John James Furnival,	De Phthisi Pulmonali.
Robert Hay Graham,	De Calorici Origine.
James Hairby,	De Cynanche Tracheali.
Charles Hastings,	De Vi Contractili Vasorum.
Frederick Hawkins,	De Febre continua.
William Lardner,	De Circuitu Sanguinis.
Andrew Lignum,	De Hydrothorace.
Richard Martland,	De Intemperantia Vini et Spiritus ardentis.
John Lloyd Morgan,	De Somno.
John Outhwaite,	De Ulceribus crurum.
Rich. Lewin Pennell,	De Spina Incurva.
William Perry,	De Morbo Faciei Nervoso.
William Pillans,	De Hydrencephalo acuto.
John Sims,	De Cerebri Concussione malisque inde oriundis.
Josiah Smith,	De Hepatitide.
George Thwaites,	De Pneumonia.
Tindall Thornton,	De Hepatitide acuta.
James Williamson,	De Ictero.
Henry Vernon,	De Rheumatismo acuto.

From Ireland.

Rob. Henry Bolton,	De Hæmatemesi.
Thomas Casey,	De Vesicantibus.
William Conolly,	De Hepatitide.
John Erly,	De Respiratione.
Will. Fitzgibbon,	De Cerebri Compressione vi externa illata accidente.
Patrick Johnson,	De Contagione.
William Kelly,	De Hydrargyro.
Will. Lodge Kidd,	De Typhi Indiciis.
Timothy Lucey,	De Scarlatina.
Francis A. M'Cann,	De Dysenteria Tropica.
Jos. M'Carogher,	De Tetano.
John M'Gowan,	De Febre Puerperarum.
John Magrath,	De Scarlatina.
Roger M'Manus,	De Pneumonia.
Jos. M'Sweeney,	De Medicamentis Lithontripticis.
William Mannix,	De Phthisi Pulmonali.
Mark Moore,	De Conclavium arte tepefactorum usu.
James O'Beirne,	De Contagione, theoria, et curatione Dysenteriæ.
Christoph. O'Brien,	De Liene.
Edward Phelan,	De Hepatitide.

Nicolas Roche,	De Peritonitide Puerperarum.
Francis Rogan,	De Febre Pestilenti quæ Annis 1807-8, Strabanae et per loca ei vicina grassata est.
Geo. S. Rutherford,	De Dysenteria Bataviæ orientalis.
George Seymour,	De Nostalgia.
Poyntz Stewart,	De Jecinore ejusque officio sano et vitioso. *Bengal.*
Alex. R. Jackson,	De Hæmorrhagia Uterina. *Canada.*
Joseph Hamilton,	De Hydrope.
John Walsh,	De Scarlatina. *Jamaica.*
John Bremner,	De Calculis corporis humani propriis.
Geo. M'Far. Lawson,	De Tetano.
Arch. M'Kowen,	De Tetano.
Edw. Lindsay Watt,	De Mania. *Barbadoes.*
Reynolds C. Thomas,	De Medicinæ progressu. *St Croix.*
Wil. Heyliger Ruan,	De Artis Apollinaris ex Ævo Æsculapiano ad Galenicum statu. *Switzerland.*
Augustus Verdeil,	De Situs Geologici efficacia in vitam animalem. *Geneva.*
Jo. Ludovic Prevost,	De Balnei et affusionis usu in quibusdam morbis. *Riga, (Livonia.)*
Tho. Zuckerbecker,	De Rubeola vulgari.

Medical Lectures in the University of Edinburgh.

Dietetics, Materia Medica, and Pharmacy	Wednesday, Oct. 28.	8	Dr Home.
Practice of Physic		9	Dr Gregory.
Chemistry & Clinical Pharmacy		10	Dr Hope.
Theory of Physic		11	Dr Duncan, sen.
Anatomy and Pathology	Wed. Oct. 28. 1 o'clock.		Dr Monro.
Principles & Practice of Surgery	Wed. Nov. 11 4 o'clock.		
Theory & Practice of Midwifery	Tues. Nov. 10 3 o'clock.		Dr Hamilton.
Clinical Medicine	Tues. Nov. 10 4 o'clock.		Dr Home. Dr Rutherford.
——— Surgery	Mon. Nov. 2 5 o'clock.		Mr Russell.
Military Surgery	Sat. Nov. 14 1 o'clock.		Dr Thomson.

Practical Anatomy under the superintendence of Dr Monro, jun.

During the Summer Session, Lectures will be given on the following Branches of Education:

Botany, by Dr Rutherford.
Midwifery, by Dr Hamilton.
Clinical Lectures on Medicine, by Dr Duncan, sen.
Clinical Lectures on Surgery, by Mr Russell.

Account of the Complete School of Physic in Ireland, for the Instruction of Students in Medicine, Surgery, and Pharmacy.

Foundation.—Sir Patrick Dunn instituted, in his lifetime, two professorships in Dublin, viz. "one of *Osteology, Bandages,* and *Operations* of *Surgery*, and one of *ancient and modern Materia Medica, and Pharmacy.*" Sir P. Dunn further directed by his will in 1711, that, if his funds were sufficient, "there should be lectures publicly read on the bodies of *men*, or the bodies of *animals*—on *Chirurgery* and *Midwifery*—on *Botany* and the *dissections* of *Plants.*" He also ordered, that the professorships on these several subjects should be bestowed according to the merits of the candidates, to be ascertained by an examination on three several days, two hours each day. A King's Professor of the *theory* and *practice* of *Physic*, with corporate powers of holding and letting lands, was instituted by George I.

An act was passed in the 21st year of George II., by which the King's professorship of Physic, and the professorship of Surgery and Midwifery, and that of Materia Medica and Pharmacy, instituted by Sir Patrick Dunn, were incorporated and established by law. Before this period, also, lectureships existed in Trinity College, on Anatomy and Surgery, Chemistry, and Botany.

Throughout the 21st Geo II., and the will of Sir Patrick Dunn, recited in it, the different lectures are always mentioned as being intended for the "*instruction* of *Students* of *Medicine, Surgery,* and *Pharmacy;*" and from thence arose the title of the *Complete School of Physic*, adopted in the subsequent acts, viz. the 25th, 31st, and 40th of his present Majesty, in which the 21st Geo. II. is constantly recognized as the foundation of the school, and as being still in force, except "as relates to the number of professors, the electors, and the mode of election, the tenure and salaries of the said professors, and the times and manner of lecturing."

Students.—The several students in Physic are matriculated in the University, for which they pay five shillings; but such students, unless they shall think proper, are not obliged to attend to the academical duties of the University. The several lecturers, when they have delivered one half of their courses, return to the Senior Lecturer of Trinity College a list of such pupils as shall have attended them during such part of their courses.

Professors.—There are six professorships. Those of *Anatomy* and *Surgery*, of *Chemistry*, and of *Botany*, are on the foundation of Trinity College, and are called the University Professorships; those of the *Institutes* of *Medicine*, of the *Practice* of *Medicine*, and of *Materia Medica* and *Pharmacy*, are on Sir Patrick Dunn's foundation, and are named King's Professorships. Provision is also made for the addition of a King's Professor of *Midwifery*, as soon as Sir Patrick Dunn's funds shall permit.

"The King's professorships are open to persons of all nations, professing their faith in Christ, and the professorships of the University to Protestants of all nations;" and for both, it is required either to have taken medical degrees in some University, or to have obtained a licence to practise from the College of Physicians, in consequence of a *testimonium* under the seal of Trinity College. Immediately before the election of any professor, the electors are sworn to vote without "favour, partiality, or prejudice;" and immediately on being declared elected, the professor is sworn to perform "his duties to the best of his skill and judgment." The electors of the King's Professors are the Provost and the Professor of Physic of the University, with three physicians, chosen by ballot from among their own body by the College of Physicians. The University Professors are elected by the Provost and Senior Fellows of Trinity College. Each professor is chosen for seven years, but may be continued, or may be re-elected.

In addition to the fees derived from the medical students, the King's Professors receive a salary from Sir P. Dunn's estate; and the University Professors are paid by the students of arts in Trinity College for the public or collegiate course of lectures.

Lectures and other Means of Instruction.—The University Professors deliver a *public course of twelve lectures* on their respective subjects.

Lectures on the following subjects are delivered from the first Monday in November until the end of the succeeding April; viz. on *Anatomy and Surgery*, and on *Chemistry*, in Trinity College; on the *Institutes of Medicine*, on the *Practice of Medicine*, and on *Materia Medica and Pharmacy*, in Sir P. Dunn's Hospital. The lectures on *Botany* commence on the first Monday in May in Trinity College, and continue until the end of July. Terms for each of these courses of lectures four guineas.

Clinical Lectures are given on the cases of the patients in the hospital, at least two days in each week of every session. This duty is taken for three months by the professors alternately, or in such other order as shall be agreed upon amongst them. Terms of each course three guineas.

Lectures on *Comparative Anatomy*, *Physiology*, and *Pathology*, are given by the Professor of Anatomy and Surgery twice a week during the session, without additional expence to those who pay for the lectures on Anatomy and Surgery. To other pupils the terms for these lectures are two guineas.

Anatomical demonstrations are given daily from the beginning of the Session until April, by the Demonstrator of Anatomy in Trinity College. The students are superintended in their *dissections*, and subjects are provided for the *muscles*, *blood-vessels*, and *nerves*. A *private room* is alloted for the use of practitioners who may wish to improve their knowledge of Anatomy. Terms for dissections, subjects, and demonstrations, six guineas; for the demonstrations alone, four guineas.

Students who wish to be instructed in the performance of *surgical operations on the dead body*, may be superintended, and have the necessary number of subjects provided them. Terms for which, five guineas.

Towards the end of the session, a course of lectures is given on the *diseases of the skin* by the Professor of Anatomy and Surgery; and one on the *diseases of the eye* by the Demonstrator of Anatomy. Terms for each of these courses one guinea.

At the *chemical laboratory*, operating pupils are received and instructed in the details of chemical and pharmaceutical processes. Terms for such instruction are six guineas.

Students in Botany have access to the *botanic garden*, which is in the immediate vicinity of Dublin, and have the opportunity of taking frequent excursions with the Professor of Botany and his assistant to the mountains and sea coast adjacent to the city.

Botanical demonstrations are daily given by the professor's assistant in the garden during the season. Terms of which, one guinea.

A course of lectures on *Mineralogy* is delivered by the Professor of Natural History in Trinity College, to which those who have their names on the books of the University are admitted gratis.

The *museum* of Trinity College, to which students have admission two days in the week, contains a *collection of minerals*, systematically arranged, with references to a printed catalogue.

Pupils are taken by the Apothecary of Sir Patrick Dunn's Hospital, and instructed in the *practice of Pharmacy*. Terms for which, during three months, two guineas.

A *Medical Society* holds weekly meetings in Trinity College for the purpose of discussing subjects connected with Medicine, Surgery, or Pharmacy.

A *medical circulating library* belongs to the members. Terms of admission to the society, with the use of the library, one pound.

Medical officers of the army and navy are permitted to attend the *lectures on Anatomy and Surgery* in Trinity College without fee.

Hospital.—This is chiefly supported by the rents of Sir P. Dunn's estates, and partly by private contribution. The Board of Governors consist of the visitors of the College of Physicians, the president, vice-president, and censors of the same, the Provost of Trinity College, and twelve subscribers; but "no physician or surgeon" of the hospital is eligible to be a governor. The house is intended to hold 130 patients, of whom 30 are selected for instruction and lectures by the clinical professor for the time; the rest are placed under the care of a physician appointed by the governors.

The cases of the clinical patients in the hospital are recorded. Every opportunity is also taken to examine the bodies of patients that die; the morbid appearances are explained to the students, and preserved in the pathological collection of the school.

At present, all pupils are permitted to attend the entire practice of the hospital during a year for three guineas. Formerly, this privilege was extended to those only who had studied at least two years in arts in the University of Dublin, Oxford, or Cambridge. All other pupils paid twenty guineas.

Library—A large collection of medical books, bequeathed by Sir P. Dunn, is appointed to the use of the students, and provision is made for purchasing books in proportion as the funds increase. A *librarian* is appointed annually by the College of Physicians, with a salary of seventy pounds per annum. He furnishes the necessary fuel for the library and medical lecture room, and discharges such duties as shall be prescribed to him by the College of Physicians.

Degrees.—The students who do not graduate in arts are permitted, at the end of three years from the date of their matriculation, to undergo an examination before the six professors of the school, in their respective departments, on producing to the Board of Trinity College certificates of diligent and regular attendance on Anatomy, Surgery, Chemistry, Botany, Institutes of Medicine, Practice of Medicine, Materia Medica and Pharmacy, the Clinical Lectures, and Practice of Sir Patrick Dunn's Hospital. They likewise write a Thesis in Latin. If found qualified by the examination, they publish the Thesis, perform the academical exercises for the degree of Doctor of Medicine, and receive the following *testimonium* from the Board of Trinity College:

"Omnibus ad quos præsentes literæ pervenerint salutem." "Nos præpositus et Socii Seniores Collegii Sacro Sanctæ et individuæ Trinitatis, juxta Dublin, testamur *A. B* quamdiu apud nos commoratus est, sedulam operam Medicinæ navasse, examinationes solitas corum sex Medicinæ Professoribus feliciter sustinuisse, cæteraque exercitia necessaria præstitisse, his adducti judicamus eum habilem ac idoneum esse, qui exerceat artem Medicinæ quatenus leges statutaque regni permittunt; in cujus rei testimonium manus et sigillum quo in his utimur, apposuimus—Anno Domini, &c. &c."

The students who go through a Collegiate course, on producing certificates of their strict attendance on the lectures of the professors in the School of Physic, on the clinical lectures, and the hospital, are, three years after having graduated as Bachelor of Arts, admitted to an examination before the Regius Professor of Physic, and the Professors of Anatomy and Surgery, Chemistry, and Botany, of Trinity College. On being approved, and performing the usual academical exercises, they take the degree of *Bachelor of Medicine*. Upon sufficient standing, publishing a Thesis, passing a second examination before the University Professors, and performing the necessary acts, the full degree of *Doctor in Medicine* is conferred. These rank with the degrees of Bachelor

and Doctor of Medicine obtained in the Universities of Oxford and Cambridge.

As qualifications previous to examination for the testimonium, the certificates of the Professors in Edinburgh are admitted for any three of the courses required, with the exception of the clinical lectures, which must have been attended in the School of Physic in Ireland.

Certificates of attendance on the Professors in the School of Physic in Ireland are received, as giving standing in other Universities, and as qualifications for medical officers in the army, navy, and East India service. And certificates of attendance on the Anatomical and Surgical Lectures in Trinity College are also admitted in the different Colleges of Surgeons.

Surrey Dispensary, Union Street, Southwark.

The Surrey Dispensary is open to the admission of Physicians' Pupils, who are entitled to attend the Medical Practice of the Institution every day in the week, upon the following terms:

For One Year . .	12 Guineas,
For Six Months . .	8 Guineas,
For Three Months . . .	5 Guineas.

For further particulars, apply to Mr Davis, Apothecary, at the Dispensary.

June 24th, 1818.

N. B. The Apothecary will describe to the Pupils the properties of Drugs and Chemicals, as well as the Botanical Characters of the Narcotic and other principal plants used in Medicine.

Literary Notices of Works in Hand.

Dr Armstrong is preparing new Editions, considerably improved, of his three works on Scarlet Fever, &c.; Typhus Fever; and Puerperal Fever.

Dr Henry is printing a new and improved edition of his Elements of Chemistry.

Dr Bostock will shortly publish the History and Present State of Galvanism.

Just Published, Practical Hints, addressed to Families, on the Nature and Cure of Consumption of the Lungs, with select Cases which have occurred in the neighbourhood of Portsmouth, in proof of the beneficial effects of inhaling the Fumes of Pitch, as a powerful auxiliary to the most approved medical treatment in that Disease. By E. Lazzaretto, M. D. Fellow of the Royal Society, and now Resident Physician in Portsea.

NOTICES TO CORRESPONDENTS.

We have received Communications from James Black, P. Cullen, David Grey, William Gourlay, W K., Mr L——, and F.; and the following Publications have been sent for Review:

An Essay on Burns; by Edward Kentish, M. D.

An Inquiry into the Influence of Situation on Pulmonary Consumption; by John G. Mainford, Esq.

Medical Report of the Hardwicke Fever Hospital, for the year ending on the 21st March 1818; by John Cheyne, M.D.

Practical Observations on Fever, Dysentery, and Liver Complaints, as they occur amongst the European Troops in India, with introductory remarks on the disadvantages of selecting boys for Indian Military Service. By George Ballingal, Surgeon, 33d Regiment of Foot. 8vo. Edinburgh.

We return thanks to a correspondent in Paris for the trouble he has taken in sending us a translation of a curious case of a fœtus found in the abdomen of a boy; but it was already published in our first volume, page 376.

We have lately received several communications, without the names of the authors being confided to us. Upon this subject we beg leave to remark, that, although in regard to merely speculative disquisitions upon established facts, and in some similar cases, the authority of a name is not necessary to establish their value, it is quite otherwise in regard to alleged facts bearing upon a controverted point, as they are totally without value unless some person be responsible for their accuracy. If there should be any objection to the *publication* of the name of the author, it should nevertheless be communicated to us.

Communications may be addressed to the Editors, to the care of Messrs Constable & Co. Edinburgh; Messrs Longman, Hurst, Rees, Orme, & Brown, London; and John Cumming, Dublin.

No. LVIII. Price Four Shillings, will be Published on the 1st January 1819.

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